

# THE AMERICAN FARMER.



"O FORTUNATOS NIMIUM SUA SI BONA NOBINT  
"AGRICOLAS."  
Virg.

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## THIRD ANNUAL EXHIBITION OF THE

### Maryland State Agricultural Society.

**APPEAL TO THE MEMBERS OF THE MARYLAND STATE AGRICULTURAL SOCIETY.**—We desire that you should bear in mind, that on the 23d, 24th and 25th days of October, your Society will hold its annual *Exhibition and Fair, at the City of Baltimore*: and we appeal to you one and all, to bring for exhibition thereat portions of your stock, the products of your orchards, and your gardens. Don't presume that any animal, or product you may own, is inferior to others that will be here, and be thus deterred from bringing them, as it is only by comparison that the relative merits of any thing can be determined. The safer presumption for you to arrive at, will be that what you have is as good, if not better than that of others, and that it behoves you to gallantly enter the lists of competition: if defeated honorably, and the high character of the Judges is a guaranty that you can be defeated in no other way, you will enjoy the luxury of knowing, that others were more entitled to success than yourself.

And while we address you to bring such articles as are properly in your department, we crave permission to solicit your interest, to induce your wives and daughters to bring whatever appertains to their peculiar departments, as embroidery, household manufactures, the products of the dairy, and of the poultry yard, preserves, domestic wines, confections; and above all things, to come themselves, as without woman, and the beautiful elaborations of her taste and genius, no display can be perfect.

To the Manufacturers of Agricultural Implements and tools, we would say, that interest and patriotism, both combine to enjoin upon you the propriety of making a grand exhibition of your machinery of all kinds, as from our present advices, we are led to believe that the assemblage of farmers and planters, and of distinguished strangers from most of the States of the Union, will be greater than upon any former occasion here or elsewhere. We therefore say to the Agricultural Implement makers and Mechanics of the United States, make it a matter of pride to display your machinery at our Exhibition, and vie with each other in having the best and largest assortment on the ground. Such ambition is laudable—is worthy of American genius, and should be cherished by the American heart.

Editors with whom we exchange will confer a favor by copying this notice.

## WORK FOR THE MONTH.

### SEPTEMBER.

Knowing from experience how necessary it is for agriculturists to do all things at the right time—how essential such action is to success—we have uniformly endeavored to impress upon our readers the propriety of being ahead, rather than behind their work. And indulging the hope that they may have taken our advice, we shall proceed to state what should now claim their attention

#### ON THE FARM.

**Rye.**—If, owing to drought, or any other cause, you have not got your Rye crop in, seize the occasion to seed early this month—within the first ten days, if possible.

Being aware that this crop is generally consigned to the most impoverished field on the farm, under the impression, that, because in thin soils, it sometimes gives fair yields, we desire to admonish you, that if you look to your Rye crop for profit, you must either grow it where there is food, naturally existing in the soil, or you must artificially place food there, as it is against every principle of vegetable physiology, to expect the Rye, or any other plant, to healthfully grow and bring forth fruit, unless it finds in the earth such substances as will nurture and sustain its structure and grain. It should be recollected that it is to the earth, and not to the air, to which all seed bearing plants have to look, for the gaseous matter out of which the kernels are chiefly fashioned.

It is not assuming too much, when we say, that the failure of this crop, for many years, to bear grain, in proportion to its body of straw, has arisen from the fact, that there was not sufficient of the nutritive principle in the soils upon which it was grown, to form a full yield of the berry.

With regard to the kind of manure to be applied, we refer you to our remarks of last month, and shall conclude this head, by advising you to be particular in the preparation of the ground, deep and fine tilth being necessary to success. And as it is now late to get in Rye, we think it would be well to sow buckwheat with it, to afford protection to the plants through the coming winter and spring.

**Quantity of seed per acre.**—The season being late, sow at least  $5\frac{1}{2}$  or 6 pecks to the acre.

**Preparation of Seed.**—Make a brine of salt, of sufficient strength to float an egg, soak the seed therein for 12 hours, drain off the brine, and mix ashes or lime with the seed, so as to separate and render them easy of being sown. This will make the seed germinate earlier, a consideration to be looked at, as the season is now late. The soak will serve for use three or four times.

**Manner of putting in.**—Plough or cultivate your seed in 2 or 3 inches deep, harrow, then run your water furrows, and finish by rolling across the furrows; by which last operation, you will give them a smooth surface and facing, and render them comparatively firm.

Timothy may still be put in. For the mode of doing so, we refer to our directions of last month.

#### CULTURE OF WHEAT.

**Wheat.**—This being the great market crop of most farmers—being the crop whence they derive their principal amount of money—its importance is of vital interest, and should always command the most profound consideration. All things connected with it, from the selection of the seed, to the sale of the crop, form matters for serious reflection. The physical condition of the soil, whether wet, or sound, the state of its fertility, the mode and depth of ploughing, the fineness of its tilth, the manner and depth of putting in the seed, the character, of the manure, where any may be used, the quantity applied, and mode of application, are all subjects of deep concern, and should be pondered on well.

There is another matter involving deep interests, which we fear is but too seldom attended to,—we allude to the time of cutting the grain.

Our readers will admit with us, that as the wheat crop approaches the period of its maturity, there is no single day within two weeks of its becoming ripe, when it is not environed by imminent peril and danger of being destroyed, in whole, or in part, by that dire and insidious enemy, the rust. So far as our information extends, in relation to its ravages the present year, all its mischief was done within the three days immediately preceding harvest. Anticipating the danger of such a contingency, we took the liberty of advising our friends in our June and July numbers, to cut their grain some days before it was dead ripe. Fortunate has it been for those who took our advice: for while their crops have escaped unscathed, many of their neighbors have sustained losses, equal to one-fourth or one-third of their entire wheat crops; both in grain and in straw.

Wheat, and other grains, may be cut from 7 to 10 days before being dead-ripe, with evident advantage to the grain in weight and in quality, and in the quantity of the flour; while the straw, for purposes of feeding, is better in quality, and more in quantity.

Experiment upon experiment, have established the truth of these averments: then why should farmers hesitate to embrace a practice, which offers the only practical plan of avoiding the devastations of the rust—a disease utterly incurable, when it comes,—and which laughs at and derides every preventive agent?

The Smut too, as we regret to have learned, has done very considerable injury; but as this is a disease perfectly controllable by wheat growers, we sincerely hope, that, in sowing this fall, they will avail themselves of the simple preventive remedy which we shall hereafter prescribe,—a remedy, among many others, which, for half a century, has proved infallible. Though simple, it is effectual,—

and we, therefore, most earnestly trust, that the little extra labor it may involve, will not deter any one from resorting to it; for if wheat is worthy of being grown, it is thrice worthy of being so put in, as to offer every barrier against the effects of any disease, which may be within the reach of the grower.

**Ploughing for Wheat.**—If the land to be cultivated in wheat, be a clover-ley or grass-sward, we would turn the furrow at least 8 inches deep; roll, so as to compress the furrow slices, then harrow, and cross harrow, until we had completely pulverized the soil; for we hold that much of the success of the wheat crop depends upon the depth and fineness of the surface soil. It should be deep enough to encourage the roots to seek a depth offering security against winter killing, and fine enough to obviate all impediments in their descent.

Whenever possible to be done, the land should be subsoiled, as well as ploughed; the former operation, in our opinion, will, any time, add 25 per cent. to the productive capacity of any sound land, not wet; wet land, before being subsoiled, should be drained. The day is not distant, when all intelligent farmers will as soon think of putting in their crops without ploughing as without subsoiling.

When wheat may be seeded in Corn ground, it should be either ploughed in with the seed plough, or put in with the cultivator, and in either case must be done with care and neatness.

**Manuring.**—Whether we sowed upon a clover-ley or upon a grass-sward, we should be careful to give a dressing of nutritive manure. We do not say a heavy one. Still we would give a dressing. We are free to confess that we have not the dread entertained by most wheat-growers, of manuring wheat. We recollect many years ago that a neighbor of ours, seeded two acres in wheat, on a lot of rather heavy loam, which had been in early Potatoes. The potatoes had been liberally manured in the rows: after taking off the crop, he manured again with a heavy dressing of nightsoil, cross-ploughed as deep as a strong team would permit, harrowed, and cross harrowed, until the tilth was perfectly fine; then sowed 2 bushels of seed to the acre, ploughed it in 3 inches deep, run water furrows and finished by rolling. On these two acres, he grew 104½ bushels of as fine wheat as we ever saw, being at the rate of 52¼ bushels per acre. Of the quantity of the ground and product, we speak with certainty, as we measured the ground, and was present when the grain was measured.

We published some years since, a letter from Mr. Wain of Elkton, Cecil Co. Md., in which he states, that he had grown ten successive crops of wheat on a 10 acre lot, the average annual product, for the whole time, being upwards of 40 bushels to the acre; and that he manured each year with stable manure—occasionally giving to the lot a little ashes; having, in the course of his cropping of the lot, limed the land.

Again.—A respectable victualler in this vicinity, had a pasture lot of 11 acres of hard yellow clay, much mixed with gravel. He had for a few years previously, used this lot as a pasture for his sheep; but concluding to set it in grass anew, it having nearly run out, he manured it heavily from his Slaughter house, sowed it in wheat in the fall of 1847, and sowed grass seed on it the ensuing spring: his product was upwards of 40 bushels per acre.

Now these results are not merely accidental; but can be accounted for upon strictly philosophical

principles. *A grain of wheat cannot be formed without nitrogen*, and, as we believe, its supply comes from the earth; therefore, it is necessary for substances of a nitrogenous nature to be in the earth, or it cannot answer the calls of the wheat plant, when it comes to form its kernels. Up to this period of its growth, ordinary soils, through the aid of rain and the gases floating in the air, in the shape of dews, can build up the other tissues of the wheat plant. But when it comes to the last tug—to the fruiting part of its office—the plant has to seek in the soil for the materials out of which to fabricate its seed. It is necessary, therefore, that there must be in such soil, what we farmers call nutritive or putrescent manure—something out of which nitrogen can be formed. This nitrogen abounds in horse dung, sheep dung, hog manure, fish manure, the dung and urine of Cattle, in that of man, in bones, in Guano, and in the dung of fowls, in flesh, in all kindred substances.

By parity of reasoning then, we conclude, that it is not the application of manure, directly to wheat, which causes it to fall or to rust, but the application of it in excess.

In England, many successful farmers, instead of ploughing in their clover-leys, preparatory for a wheat crop, feed off the grass with their cattle and sheep, deeming the manure thus obtained, more than an equivalent for the clover consumed. Such too was the practice of that intelligent farmer, and accomplished gentleman, the late Gen. Thomas Emory, who stated a few years before his lamented death, in an Agricultural address, that, from his observation of the results of such practice, he was fully convinced, that it was more advantageous to feed off the crop of aftermath than to plough it in.

We state these facts, in order to awaken reflection, deeming them worthy of the deepest consideration; for we are firmly convinced, that the falling off in the *gluten* of the wheat grown of late years, has arisen from the chary manner in which putrescent manures have been applied; and to the same cause, in a great measure, may be ascribed the decrease in the acreable product of wheat, as in such manures are to be found all those elements which are required to build up the roots, the stalk, the leaves, and particularly the *grain* of the wheat plant.

Why is it that Guano acts with so much promptness—with so much efficacy? why is it that it so largely increases the productive capacity of poor land? why is it that it adds so large an increase to the number of bushels of grain yielded on an acre of such land? It is, because it is rich in those elements which constitute the grain,—and, because among these are to be found ammonia, a compound of Hydrogen and Nitrogen—because it is rich in the phosphate of lime—bone earth and other phosphates; in Soda, Potash, and other substances, which go to form the plant, in its wholeness; and above all else, because it so largely abounds in nutrient principles, the very things needed to form the grain of wheat, but which is so dreaded in barn-yard and stable manures, where they also exist, but in a greatly reduced ratio of percentage; and in a form too, not so liable to act with promptness, because their action is dependent upon decay subsequent to being placed in the earth; whereas, in the guano, they are mostly in a state to be immediately availed of by the growing plants.

Why should barn-yard and stable manure, which contains a greatly less per centum of nitrogenous

matters than guano, and contains them too, in a more crude and undigested state, occasion the evils complained of to the wheat crop, and that crop not only escape, but triumphantly prosper, under applications of the latter, which is known to possess them in larger quantities, and in a state to be yielded up instantly to the growing plants? This question is pregnant with matter worthy of profound reflection.

In England, where the average acreable product of wheat, is 26 or 28 bushels; where the soil is heavily manured for turnips, which is, generally, the preparatory crop for wheat, and where that crop is mostly fed off on the land by Sheep enclosed in hurdles, so as to ensure a more equal distribution of the manure dropt by them,—no intelligent farmer there, thinks of sowing or drilling in a crop of wheat, without adding a heavy dressing of highly concentrated nitrogenous manures. Why does this practice prevail there? Simply, because experience has proven, that the wheat plant, like all other seed bearing plants, require such nutritive food as will enable it to form its grains. Hence it is, that the farmers and wheat growers of England, on an average, get more than two bushels of wheat for every one grown on the same quantity of land by those of our country: in fact, make one acre produce more than two of ours. Now as this superiority in product is the result of superiority in attention to the preparation, and in the feeding of the land, it is time that we should improve our practice. Is any proof of the truth of what we have advanced wanting? We think not. All efforts to increase the quantity of the wheat crop in our own country, by the application of Guano, bone-dust, and all other highly concentrated nutritive manures, have proved in their results, eminently successful. Nearly all such experiments of our enterprising wheat growers, upon good land, have turned out their 20, 25, 30, 35, and in some instances, their 40 and 50 bushels of good wheat to the acre. These were not the results of accident, but are the well defined verification, of that great agricultural truth—that no plant can be made to bear its fruit in fulness and perfection, unless it be provided with appropriate food, to enable it to perform its functions vigorously and effectively.

The half starved plant, may struggle on in a sickly state; striving its best to overcome the surrounding difficulty of meagre fare; but all its noble exertions must, from the very nature of things, result in diminished product, as it is inconsistent with the laws of vegetable life, that perfect growth and fructification, can be the offspring of any plant, whose whole existence has been through a denial of all the elements which are essential to preserve its vitality in integrity and vigor.

*Quantities and kinds of manure.*—Those who possess the facilities and means of procuring Guano, will consult their interest by manuring with it. 200 lbs. mixed with 1 bushel of plaster, will answer for an acre.

Those who may have stable and barn-yard manure half, or fully rotted down, by mixing 2 bushels of salt and 5 bushels of ashes, with every 5 or 6 loads of the manure, will have for each acre they may set in wheat, a compound that will not fail to produce a good crop, and place the land in such condition as to bear being seeded down in grass or clover.

Ten loads of coarse barn yard manure, mixed with 5 bushels of ashes, 2 of salt, and 1 of plaster, will answer equally well for an acre of land.

Ten bushels of *bone-dust*, the same quantity of ashes, and 2 bushels of salt, per acre, will answer. So also, will 10 bushels of *bone-dust* and an equal quantity of rich mould; or 5 bushels of *bone-dust*, 5 bushels of ashes, and 2 bushels of salt.

Whenever the *bone-dust* may be used as a basis, the materials should be formed into pie, and permitted to remain until fermentation commences, which can be ascertained by thrusting a stick into the pie,—so soon as the bones become heated, and emit an ammoniacal smell, is the time when they should be applied. When about to be used, the pie should be broken down, and mixed with 1 bushel of plaster for whatever quantity of the mass which may be intended for an acre.

Those who may have a compost formed of marsh, river, creek, or ditch mud, ashes, or marl, cannot do better than to apply 10 loads on each acre of land intended for wheat, whether in grass or not. This mixture, if the land is not in the vicinity of salt water, would be greatly improved, by having 2 bushels of salt added to every acreable apportionment.

In composting either of the described muds, if ashes were used, we would add from 16 to 20 bushels to every 10 loads—if marl were used, 50 or 100 bushels may be mixed with that quantity of mud.

Ten loads of such mud as we have designated, and 100 lbs of the Nitrate of Potash, or 100 lbs of the Nitrate of Soda, will form a most powerful and effective manure for an acre in wheat.

All the foregoing manures, except those whose bases are *bone-dust*, to be ploughed in; those whose bases are *bone-dust*, to be harrowed in: what we mean by a load, is a double horse one, well filled.

Ten loads of woods'-mould, 20 bushels of charcoal, saturated with 100 gallons of Urine, mixed well together, will manure an acre in wheat, just as effectively as would 2 or 300 lbs of Guano, with this in favor of the former—it would be more durable; we say this, entertaining at the same time the most exalted opinion of the virtues of guano.

5 bushels of *bone-dust*, 5 bushels of ashes, 2 gallons of fish oil, and 2 bushels of finely pulverized Charcoal, mixed together, would form a most admirable compost for an acre in wheat.

**Preparation of the Seed.**—Make a soak of common Salt, sufficiently strong to bear an egg; soak your seed wheat therein for 12 or 24 hours, strain off the brine, place your wheat on the barn-floor, and mix fresh slaked lime with it, until each seed becomes dusted over, when it will be fit to sow: if you have no lime handy, ashes will do.

No more seed should be taken to the field in any one day, than can be put in. Seed in the soak will keep many days, but does not do to be exposed long to sun and air, after being taken out, before it is covered in the earth. The custom is to cover it with a cloth in the cart while being used.

Before putting the wheat in the salt-soak, wash it twice in pure water.

There are a dozen other soaks; but we believe this to be the best, the neatest, about the cheapest; and withal, a SURE PREVENTION AGAINST SMUT.

**Selection of Seed.**—Be sure to get such kind of wheat seed as is best adapted to your soil; let it be hardy, early, and prolific: be sure that there are no cockles, chaff, or other weed seed, in it. It is a good custom to pass even the cleanest seed wheat through a good sieve before soaking it.

**Mode of seeding and putting in.**—If sown broadcast, we would prefer ploughing, or cultivating the seed in, not less than 2 nor more than 3 inches deep;

to be afterwards harrowed and rolled. Either of these methods more effectually cover the seed, than when done with the harrow, and by placing the seed deeper, serve measurably to protect the roots of the plants from the effects of frost.

**Drilling the wheat in by a machine**, we think a better plan than either of the above ones; and for the following, among other reasons:

1. It requires 3-8ths less seed to set an acre of wheat when drilled in, than when broadcasted, it requiring but 5 pecks by the former mode, and 8 pecks by the latter, when well done—a saving of 75 bushels in a hundred acre field, is, therefore, effected.

2. The seed are more equally and eligibly distributed, as regards space and depth, than can possibly be done by hand, however skilfully performed.

3. By drilling, the labor of forming the drill, dropping the seed, covering and rolling, is performed at one and the same time; thus saving the labor and expense of these separate operations, which are indispensably necessary to be performed, whenever wheat may be ploughed in, put in with the cultivator, or harrowed in.

4. By the drilling machine, a slight ridge is raised on either side of the drill, which, to its extent, protects the roots of the plants from the injurious effects of cold and wet, the slight elevation acting as a barrier against the wind and water.

5. Should the roots of the plants be uprooted by the contraction and expansion of cold and heat, the earth forming the ridges settle down on them, and thus afford a tolerably fair protection, rendering it an easy operation in spring, when the frost is out of the ground, and the earth settled and dry enough, to replace the roots, by passing the roller over the field, an operation of infinite service, and which should never be omitted.

6. The space between the drills, gives free circulation to the light and air, matters of great moment to the plant in the course of its growth, thereby letting in the light of the sun and the meliorating power of the atmosphere, whose kindly influences cannot be too highly appreciated; besides which, it opens a direct channel for the revivifying action of the dews, admitting them at once on to the earth, to be there absorbed and taken up as food for the growing plants.

7. Drilling is said by one of the best, one of the most enlightened, and one of the most enthusiastic farmers in the country, to render wheat less liable to rust. He does not assign the reason; but we presume the theory of the thing to be this: that, owing to the free admission of sun and air between the drills, the plants do not suffer so much from superabundance of water, as do those sown broadcast, and, as a consequence, vegetation goes on more regularly; the plants, therefore, are not so liable to be forced into an absorption of an excess of sap, and by this means escape the evils which would be consequent upon an exuberance of that fluid; the vessels of the stalks avoid disruption, no exudation takes place, so that should the close, murky weather, which so favors the parasitic plants or fungus, to which the rust is referred, occur, the stalks remaining whole, and there being no weeping out of the sap, no lodgments can be made by the parasitic tribe; and they are wafted away without doing harm, by the current of air passing through the spaces of the drills—for the efficacy of this we do not answer.

So much for theory; and now let us see what that sterling, strong-minded farmer, of Wheatland, Delaware, says, with regard to the results of its practi-



cal operation. In a letter to the Commissioner of Patents, Maj. John Jones, says:

"When I commenced drilling, and for two or three years, I was ridiculed by my neighbors; some would advise me to take the implement home, break it up, and cook my dinner with it." [Smart neighbors these!]

"I, however, disregarded their jeers, and persevered. And now the best evidence that I can possibly bring forward in support of the drill, over the broadcast system, is the fact, that all my neighbors have adopted the drill for sowing their wheat, and most other small grain; and that we have three or four drill-builders besides H. W. Pennock, the inventor of the improved drills, all of whom could not supply the demands for drills for New Castle County the past season. I think I am warranted in saying, that three-fourths of all the wheat that will be grown in New Castle county the next year, will be from land sown with the drill. One of the great advantages of the drill over the broadcast is, that they can be constructed for sowing the concentrated manures, guano, poudrette, bone-dust, &c. I have one lot of 160 acres, upon which I sowed at the same time with my wheat, fifteen tons of guano; on a part of which I sowed 300 pounds, and other parts 200 pounds per acre."

"The experiments with the drill, and broadcast, on Dr. C. Noble's field, resulted in a yield of 27 bushels per acre of broadcast, where two bushels had been sown, and 35 per acre, where 1½ bushel had been sown with the drill; land similar in every respect; the variety of wheat, Mediterranean; showing an increase in favor of drilling (including the sowing of seed) of 8½ bushels to the acre."

The yield of additional straw on the drilled acre, 12 per cent.

The yield of additional wheat on the drilled acre, 27 per cent."

Such facts require no comment—they write their own history.

**Time of Seeding.**—We have ever been the advocate of early sowing; and notwithstanding the oft repeated attacks of the Hessian-fly, to which early sown wheat plants are subject, we remain unshaken in our belief of the propriety of the practice. It is not our purpose to designate the day on which wheat should be sown; but merely to urge, that it should be got in as early in this month as possible; and to express the hope, that when done, it may be well done, as the manner of putting in a crop, exerts a powerful influence over its product.

**Water Furrows.**—So soon as you have finished seeding, run your water furrows, and pass the roller cross-wise over them.

**Quantity of Seed per acre.**—If sown broadcast, it will require 8 pecks, per acre: if by drill, 5 pecks, per acre, will be ample; so that, by drilling, 3 pecks of seed will be saved on each acre; a matter of considerable moment to the economical farmer; besides which, out of the many experiments made to test the relative productiveness of the two systems, the results are signally in favor of putting in wheat by the drilling machine.

**Calcareous matter for Wheat lands.**—All lands on which wheat may be cultivated, should be either marled or limed, as lime forms a very important constituent in the elements of the wheat plant, being an important part of its structure and substance.

Ashes will answer as well as lime, or marl, inasmuch as more than one-half of the body of ashes, is, in fact, LIME: perhaps, it would act better, as besides

the lime, there are comprised in ashes, various other substances, which enter into the wheat plant, and form portions of its food and structure.

**Wet lands.**—Wheat should never be grown on wet lands: indeed, there are but few of the cultivated plants that succeed well on such soils. By draining, such lands are improved in texture and temperature, are worked at less expense, may be worked sooner in spring, produce earlier, larger, and better crops, and render the place more healthy. These reasons should induce all notable farmers at least, to go to work, drain such lands, and thereby add to their solid comforts and wealth.

**Spring rolling.**—Wheat fields should always be rolled in the spring, so soon as the frost is out of the ground, and the soil sufficiently firm to resist poaching from the horses' hoofs. It serves to replace the roots of the plants thrown out by frost and thaw, consolidates the earth, gives an impetus to vegetation, and exerts a beneficial influence generally.

**Granaries—the weevil.**—Before any new grain is stored therein, granaries should be thoroughly cleansed. In the first place, the floors, walls, and ceilings, should be carefully swept, the dirt, cobwebs, and insects gathered and burnt, not swept out of doors; then the entire interior, should be scoured with hot lye, made strong; and, when dry, should be white-washed, with at least two coats of whitewash. Such a cleansing, would probably destroy the weevil, which proves so destructive to stored grain.

We have seen it stated that by placing several vessels with tar in them, in a granary, and renewing the tar, occasionally, that the fumes arising from it was so offensive to the sense of smell of the weevil—as suffocating in its effects—as to either kill or drive them from the premises. Of this latter remedy, we have no personal knowledge; but as it is inexpensive, it may be well to test its virtues, as an adjunct to the thorough cleansing which we have named.

We have seen it stated also, that by sprinkling lime through the grain at the time of storing, it would secure it from the ravages of the insect. This being a cleanly remedy, and easily tried, it would be well to give it a fair experiment—not omitting the thorough cleansing we have recommended.

The following plan, is the one pursued by the Hon. Wm. Carmichael, of Queen Ann's County, of this state; we published it in Aug. 1848, but as it is one of those things that will bear repeating, we republish it for the benefit of our friends; and do so with the more pleasure, as it proceeds from a gentleman of great experience and knowledge—one who is always implicitly to be relied upon:

"I last summer, saw some publications in your paper in relation to the weevil-fly and Black-weevil. The weevil-fly deposits its egg in the grain, in its green and tender state. If the wheat is threshed soon after harvest, and thrown into bulk, it undergoes a heat, which destroys the egg, and it sustains no injury; but if it remains long in the sheck or stalk, the weevil hatches and makes its way out of the grain, to its great injury, both in weight and quality. One degree to the north of us, this pernicious insect is but little known. Here, I have sometimes marked its absence for several years; but after a mild winter, they generally appear. In the more southern states, I believe, they are never absent."

"The Black Weevil haunts our granaries, when they are generated. Some years ago I suffered much injury from them, but have now an effectual defence. When my granaries are clear of grain, I place pow-

dered brimstone in an earthen pan, which, for safety, I put on the floor in a bed of sand, closing doors and windows, and fire it. The smoke either destroys them or drives them off."

**Thrashing out grain.**—It is, we think, always good policy to thresh out and store away your grain as soon after harvest, as your other more pressing labors will permit you, as it places you in an eligible position to avail yourself of any favorable changes of the market. Your grain ready, you can embrace any occasion of a sudden rise in value, to dispose of it, whereas should you have to wait for the operations of threshing and cleaning, a fall in the price might occur before you could have it ready, and thus you might lose the golden opportunity of realizing a handsome profit. But independent of these considerations, the danger from the depredations of insects, and of vermin, as explained by the Hon. Mr. Carmichael, in the preceding paragraphs, should at once point out to you the policy and propriety of getting your grain crops out at an early period, and of storing them in your granary, as a means of preservation.

**Destruction of Rats.**—Before housing the grain crops of the present year, it would be well to get rid of those rats that have taken so large a share of your last year's crops. To aid you in this laudable enterprise, we have given in another column, two receipts for their destruction; either of which, if carried into effect, will render you *ratless*, a "consummation" which every farmer should "most devoutly wish for."

**Pastures.**—These should be top-dressed in the course of the fall, with a mixture composed of a few bushels of ashes, lime and salt, or marl, being first harrowed.

**Meadows.**—If your meadows are old and turf-bound, you may greatly improve them, by giving them a good harrowing, sowing thereon 5 bushels of bone-dust, 5 bushels of ashes, and 1 bushel of salt, and by sowing a half peck of timothy seed per acre: this done, roll the whole in. Lime or marl will answer, if not convenient to apply the above mixture.

**Orchards.**—Give your orchards a top-dressing, and harrow it in. Then make a mixture in the proportion of soft soap, 1 gallon, 1 lb. Sulphur, and 1 qt salt, and paint the body of the tree from the earth upwards; first scraping off any moss or rough bark.

**Materials for manure.**—Employ a team and hand during autumn, in the collection of materials, and in forming compost heaps. Labor thus bestowed this fall, will bring you back principal, with compound interest, next year. There are materials enough on and around your place, to make enough manure to go over your entire spring crops. Then why should you permit them to go to waste? Say not, that you cannot spare a hand; for such employment would put more money in your purse, than any thing else you could put him to, as it would enable you to make two barrels of corn next season, where you make but one now. Believe us when we tell you,—

**THAT THE MAKING OF MANURE HEAPS SHOULD BE THE FIRST DUTY, THE FIRST OBJECT, OF EVERY FARMER.**

**Stock.**—Prepare a mixture of equal parts of finely sifted ashes, slaked lime, and salt, and give an ounce or two to each of your cattle, horses, and mules twice or thrice a week. See that your sheep have access to salt and tar, or salt alone at all times, kept under cover; that all your stock are regularly supplied, thrice a day, with good wholesome water, and that your working animals are well curried and brushed, or rubbed down with a wisp of straw. A good cleansing of the hide, is most grateful to the laboring beast, and highly conducive to health.

**Planting out a young Orchard.**—Do you intend setting out a young orchard this fall? If so, it is time you were putting the ground in order, if you desire that your trees should thrive and do well. The soil in which a young orchard may be planted, cannot well be too carefully prepared. It is thought best that the ground should have the advantage of a year's previous cultivation in corn, potatoes, or some other crop requiring frequent and cleanly culture. But if the acres you design for your orchard has not had this advantage, you may still get it in good condition to receive your trees, between this and planting time. The land should be both *ploughed and subsoiled*, early this month, harrowed and left to mellow. It should be ploughed 8 or 10 inches in depth, and subsoiled as deep as the subsoil plough can be made to penetrate the earth. This done, prepare a compost consisting of mould and leaves, from the woods, marsh mud, river mud, and the scrapings of wood-yards, of roads, and of ditches. To every 20 double-horse-cart-loads of the above ingredients, add 5 loads of farm yard manure, and 50 bushels of ashes or 100 bushels of marl and 5 bushels of bone-dust. Mix the whole intimately and well together, layer and layer about; make the materials into a heap, and let it remain until a few days before you design planting the trees. Then shovel over your compost, and haul it out upon the land; broadcast evenly upon each acre 20 or 25 double-horse-cart loads, plough it in 8 or 10 inches deep, reserving enough of the compost to give to each tree about half a bushel, which must be intimately mixed with the surface mould, dug out in making the hole for the reception of the tree.

In making the *holes*, which should all be made before the trees are taken to the ground, have them of sufficient width to accommodate the roots without any cramping. In digging, throw the surface soil on one side, to be mixed with the compost, and the subsoil on the other. Dig the holes about 2 ft deep; fill up the hole with the mixture of surface soil and compost, so as to leave a depth sufficient to enable you to insert the trees about the same depth they originally stood in the nursery. As you are about to insert the trees, examine the roots: if any are broken or seriously injured, cut them off smooth. Before placing the tree in the hole, immerse the roots in a mixture of the compost, made into the consistency of cream, with water: in planting, have the roots spread out regularly, then, while one man holds the stem of the tree perfectly perpendicular, let the other spade or shovel in the mixture intended for covering, occasionally moistening the earth in the hole, with water from a watering pot, and pressing the earth around the tree with his feet, firmly but not too hard. In filling up, it will be well to leave the ground slightly basin-shaped about the surface. In finishing, give to each tree a watering pot of water, gently poured out, having first inserted a stake tied to the tree with a straw, or other soft bandage, to prevent chafing and injury from the winds.

Recollect, that in setting out an orchard you are doing a thing which is to last for life; and, therefore, that you should do it well. A little trouble and expense at the beginning, always turn out, in the end, enlightened economy.

In the selection of your trees, have regard to a just proportion of summer, autumn, and winter fruit; get the best kinds, and of those sorts that are known to suit the latitude and climate of your location. There are varieties of Apples which bear well, produce delicious fruit, in certain degrees of latitude suited to their habits and constitutions, which, on be-

ing translated only a few degrees farther north or south, prove insipid, worthless, and unfruitful. You should, in making your selection, attend to this fact, and regulate your purchase accordingly. And be sure that you buy of none but a nurseryman of well established reputation, for skill in his business, honesty, and fairness in his dealings.

We have deemed it to be our duty to our agricultural friends, to give the above caution, as there have been many sad impositions practiced by *sharpers*, who sometimes peddle trees about the country: it is always safest to suspect the quality of such trees, as had they enjoyed reputation at home, there would have been no necessity for hawking them about. **— TREE PEDLERS ARE NOT THE MEN TO BUY FROM.**

**Cellars and Out-houses.**—Have all these thoroughly cleansed, and white-washed. Strew lime over your cellar floors, and set plates, or other vessels, filled with plaster in them. Plaster is one of the best disinfectants known; and, by thus using it, it may prove conducive to the health of your family. Your stable floors, cow yards, pig-pens, vaults, sinks, drains, and all other places, where nuisances are likely to be, should, every few days, from now until frost, be sprinkled with it. A slight covering will be sufficient. Don't fear the trouble or the expense, as, in such situations, it will attract and condense more ammoniacal substances than will pay for it three times over. As you replace one parcel with another, put the part withdrawn carefully away, as you may depend upon its being well charged with the food of plants.

**Fences.**—This is a period of the year, when, from the scarcity of grass, the appetites of cattle are very apt to be keen, and they quick sighted. Thus prepared, they are prone to hunt for, and find, the weak points in a line of fence. Therefore, go at once, and personally examine your's. Don't trust this duty to any one; but do it yourself. Have every weak panel forthwith repaired, in order that you may be ensured against the inroads of your own, as well as your neighbor's stock. Frequent examinations and attentions of this kind, save one from losses, vexations, and heart-burnings. Good fences have a wonderful effect, in preserving the harmony and kindly feelings of neighbors.

**Seeding a lot in grass.**—A friend tells us, that he has a small lot which he wishes to put in grass, for the double purpose of hay and pasturing, and asks us, how, and with what, he shall set it?

In the first place, we would have him manure it with 20 double-cart loads of good putrescent manure, per acre, then plough that in *deep*, subsoiling the land at the same time: then harrow and cross-harrow, until every clod is broken up, and the soil perfectly pulverized; this done, our advice is, that he should spread on each acre 50 bushels of ashes, 2 bushels of salt, and 5 bushels of bone-dust, and harrow in.

His ground thus prepared, he should, for every acre, provide 6 qts of timothy seed, 1 peck of herd's grass or red top seed,  $\frac{1}{2}$  bushel of orchard grass seed,  $\frac{1}{2}$  peck of Kentucky blue grass seed, 6 pounds of Perennial Rye grass seed, and 1 pint of sweet scented vernal grass seed; mix the whole well together; sow the seed evenly, harrow it in *lightly*, and roll; if he does as we advise, we will warrant, that next year will show him a sight worth looking upon; provided, he gets his seed in by the 10th of this month. He should mow his grass when in bloom, cure it, after wilting in the swath in the sun, 6 hours,

in cocks, and he will have, on each acre, 3 tons of the most fragrant hay that ever farmer fed out to his stock. If our friend wishes to see our prophecy fulfilled, he must follow our advice throughout—in the letter, as well as in the spirit, or we shall vitiate our insurance. If he does so, he will not only have the luxuriant crop of hay we have spoken of, but a fine, plenteous pasture, from 3 or 4 weeks after cutting his grass for hay, during the summer and fall. We go for doing things well, and when they are not so done, do not hold ourself responsible for results.

In the spring, when the frost is out of the ground, and the soil tolerably dry, it will be best to pass a roller over it, to consolidate the earth, and replace any roots that may have been thrown out by the frost.

Should our friend set his lot in grass according to our directions,—then top-dress, harrow and roll it every second fall; it will continue to yield good crops of grass for hay, and pasture for his stock, for 12 or 15 years: of this there can be no doubt; provided, at the time of top-dressing, once in four years, he sows more grass seeds on it.

**Ditching and Draining.**—As no lands which are wet can possibly do justice, either in the quantity, or quality of their products, if you have a field in that condition, make all necessary arrangements, and have it relieved of its superabundance of water, this fall, by ditches, and covered drains.

**Liming and Marling.**—If you have a field that has been long in culture, without having been limed, or marled, it may be reasonable to conclude, that a dose of lime or marl will be serviceable. Should you intend it for a crop of corn, or oats, next spring, the most judicious way to apply either, and to be sure of deriving benefit from it in the next year's crop, would be, to give the land a thorough harrowing this fall, apply lime, and marl, by spreading it broadcast, and harrowing it in thoroughly, lengthwise, and crosswise. This would give the mineral an opportunity to become tolerably intimately mixed with the soil by next spring, and thereby ensure its action on the crop then to be put in.

In applying either Lime or Marl, you must regulate the quantity by the condition of the land. If it be well filled with vegetable remains, 50 bushels of lime, or 100 bushels of marl, may very safely and advantageously be applied to each acre. If in an exhausted state, one-half the above quantities will be enough for a single dressing. In the latter condition of your soil, it should be your policy to speedily supply it with vegetable substances of some kind, in order that the mineral should have something to act upon—something out of which to form mould,—to provide food for the plants to be grown thereon, and that the soil itself might be clothed with the capacity of absorbing food from the atmosphere.

Calcareous matter of some kind, is indispensable to all soils; but neither lime, nor marl, can do but little towards improving a soil wherein vegetable and animal matters are not present. To undertake to improve land with these substances *alone*, is one of the most quixotic and absurd undertakings, that man ever engaged in. In some soils, which have been long in culture, there are considerable quantities of inert, insoluble matters—these, by the action of lime, or marl, will be rendered soluble, and, in that state, be available to the plants as food; but so soon as this stock of material shall have become exhausted, the soil will become comparatively sterile. Hence, every effort should be made, as soon as possible after the application of either mineral, to



provide new supplies of vegetable substances. This can be done by full dressings of barn-yard manures, peat, marsh mud and turf, road scrapings, ditch scrapings, wood's-mould, green crops, &c., with the first crop after the application of the mineral, and by speedily getting the land into clover, or grass, after such treatment; and by subsequently treating it, at each rotation, to a good dressing of the manures before alluded to.

We repeat—to undertake to bring wornout lands to a state of fertility with lime, or marl, alone, is one of the most quixotic and absurd undertakings that man ever engaged in: and we will add, that so essential is calcareous matter, to every soil, that none can be highly fertile unless it be present therein, in some form or other.

#### DRAINING TILE—MODE OF APPLYING GUANO—CANADIAN RECIPROCITY BILL.

To the Editor of the *American Farmer*—

In answer to the inquiries of your South Carolina correspondent in reference to draining Tile, I state, that a young Englishman by the name of William Lovel, encouraged by some of the Agriculturists of this neighborhood, commenced some two or three years back the manufacture of draining Tile near Wilmington in this State. In the first patterns the sole or bottom was separate from the top, after the then English mode, but last season he constructed a mould by which the pipe, of some two inches in diameter, and the sole which is flat and some four inches wide, was made in one piece. These were highly approved and sold very readily. I purchased several thousand of them myself. The price was \$15 a thousand; each tile being one foot long rendered them cheaper than any durable material that could be used, and orders, as they became known, came in from Pennsylvania and New Jersey, and all manufactured were readily sold. But poor Lovel became in the course of last season, the victim of the cholera, and the business has not been resumed here by any one, but no doubt soon will be. To show that Lovel had hit upon the very latest improvement in England, I refer you to the 2d vol. Colman's *European Agriculture*, page 100. The Tile manufactured by Lovel are identical with what Mr. Colman there describes to be the last improvement in England.

I will bring with me to the Baltimore Agricultural Exhibition one or two of these tile, and will endeavour to suggest to Mrs. Lovel to have present the mould or machinery by which they were constructed; possibly the Society may deem it deserving a premium; her husband, poor fellow! deserved much credit for his perseverance and success in getting them up. The tile are made from common brick clay, and burnt in a kiln like common brick, so that they can be made in any part of the country, where there is common brick clay.

The price of Guano is so enormously high that some may prefer to wait for later arrivals. I state for the information of such, that in my experience, an application after the ground is ploughed, and covering it with a cultivator, is as good as ploughing it down. I applied ten tons of Peruvian last season, to a poor field on a farm in Kent County; one half before ploughing, the other after as above: we could discover no perceptible difference in the wheat, though carefully examining it. This we discovered; that on a land or two where the teams had been driven off by the rain before the guano was ploughed down, the wheat was much less, ap-

parently nearly a difference of one half, so that guano should be put at once below the surface, out of the way of the dew and rains, or a large portion of its valuable salts will escape and be lost.

I remember the query was put last season to the editor of the "*American Farmer*," as to whether lime applied to the ploughed surface after the guano had been turned under, would affect the guano; and the answer, as a matter of opinion, and for reasons assigned, was in the negative, that it would not—such is my experience on the field above alluded to, where by a misunderstanding my manager covered some twenty acres of it with a dressing of pretty recently slaked lime; we thought it did good rather than injury, so that the result of this involuntary experiment showed that the editor was right, as he generally is. The guano in this case had been ploughed down two or three weeks before the application of the lime.

My guano cost me last season \$45.59 cash the long or legal ton. The product of the field of 70 acres was 1200 bushels, which I have just got to our Brandywine market, where it brought me \$1.15 a bushel. This may pay this season, but considering the contingencies that attend the wheat crop, anything like \$15 a ton added to this, which the holders in Philadelphia I understand are now asking, will not pay, and as I do not choose to grow wheat for the "benefit of commerce" merely, shall not purchase at any such price.

I highly approve the views of your correspondent Agricola; no doubt he is right. The Peruvian government should by our government be possessed of all information in reference to the extent of our market for the sale of guano—we want a little good practical business-like diplomacy on this subject, and I trust we shall have it, when the monopoly of one English House could probably be broken up, and American Farmers be furnished with this very valuable fertilizer at fair and regular prices, which would greatly advance our agriculture.

I hope your subscribers generally, have, or will, attend to the suggestion you very properly made in a late number of the *Farmer*, of getting up and signing remonstrances against the Canadian Reciprocity Bill; we acted promptly and with great unanimity here in the premises. The success of this measure would be injurious—most injurious to us. In the opinion of many, it would at once reduce the price of our wheat twenty cents a bushel, and oats not less in proportion. They have, it is said, a very large surplus the present season, and are ready to take possession of our markets; if for the benefit of other interests we are to have our "*home market*," for the creation and support of which we are heavily taxed, shared by the untaxed Canadians, we should not only each and all remonstrate, but address our friends in Congress on the subject. We must give some attention to these matters or suffer the consequences, and we shall deserve to suffer them.

"For duller should we be than the fat weed  
That roots itself at ease on Lethe's wharf,"  
if we allow our grain markets thus to be surrendered to the impotency of foreign interests and the gratification of commercial cupidity.

CHAUNCEY P. HOLCOMB.

New Castle County, Del., Aug. 1st, 1850.

**Gooseberries.—Currants.**—Select a shady border, and set out cuttings of gooseberries and currants, towards the last of this month.



## CULTURE OF THE PEACH IN VIRGINIA.

To the Editor of the *American Farmer*.—

DEAR SIR:—There have been a few facts connected with the growing of peaches in this neighborhood the last spring, which may be thought valuable to those who take an interest in that delicious fruit. It has been known for many years that that crop is very precarious here—more so than it is either farther North or South; or even East or West in the same latitude. We appear to be precisely in that position when a few warm days (which very frequently occur in January or February) force the bloom so far forward as to be caught by the late frosts which usually visit us in April. Farther North they are more exempt from the early warm weather which promotes the premature vegetation, and farther South they are free from the late frosts. So very uncertain have been our peach crops, that those who have devoted attention to the subject, have become very much discouraged. Some years ago it was suggested that electricity, applied to the trees by means of wires, would secure the fruit, but that I believe, as well as some other means for its protection, have been abandoned. What remedy the light of science may furnish I know not, but hope there is in reserve something to meet the case. Until that shall be effected, I will suggest one remedy which may, to some extent, accomplish the object, and that is, to plant out our orchards from our own native trees. My own orchard, and those of some of my neighbors, were set out from Northern nurseries, or of trees which were budded from Northern trees. This year has developed the curious fact that almost without exception every tree which came from the North, or which was the offspring of a tree which came from a Northern nursery, has lost its fruit, whereas most of those which were raised from the seed and native trees, are in full bearing. There are a few seedling trees in my own orchard only a few yards from Northern trees, which verify the facts above stated. On one seedling tree there were inserted six or seven years ago, some buds of the "Baltimore Beauty," from a tree which had been brought from Mr. Rodgers' nursery, near Baltimore. One bud, however, failed, and that limb remained and grew a seedling. This year not a limb of the "Baltimore Beauty" has a peach on it, while the seedling limb is full. The same thing is to be seen on a tree at one of my nearest neighbors. I have two neighbors residing very near together, a few miles from me, one of whom has Northern trees, and the other native growth, with the same exposure. On the first no fruit is to be seen, and the trees of the other are well set. Without making extensive enquiries, I could cite several other well authenticated cases in this immediate vicinity, which go to prove that Northern trees and the offspring of those trees, are more liable to have their fruit killed by frost in this latitude than those of native growth. Having observed no difference in the blooming of the respective trees in my orchard, I thought it probable that the native trees had bloomed later and were thereby less exposed, but I am assured by at least one of my neighbors, (who is a man of observation) that the native trees were first in bloom. There is another fact in connection with it: the continuance of cold was sufficient to embrace all the blooms which put out last spring, and its intensity sufficient to destroy them. (If further and similar facts should be known, (and I hope some of your correspondents will enquire into the subject and report thereon,) it

will suggest the propriety of raising our trees from the seeds or buds of such native trees as are known to be choice varieties. I do not profess to have much skill in pomology, but hope those who have will be induced to investigate the subject and give us something more tangible and useful connected with it. It is at least a subject of curiosity, and I should think one of interest, and one to which I have not before seen any allusion.

I am pleased with the Supplement which accompanied the July No., exhibiting a variety of agricultural implements. It would add very much to the value, if the price of each implement had been given, which would save the trouble of enquiry by letter. Your last No. is highly interesting and valuable, and is well worth the year's subscription. I thank you for the "Shinney Peas," which came safe to hand.

Very respectfully,

W. J. DURY.

Petersburg, Va.

WASHINGTON COUNTY, (MD.)—A subscriber in Washington Co. gives the following brief account of the renovation of his land, to the Editor of the *Farmer*:

"Some years ago I purchased a tract of land which had long been farmed on 'the skinning system,'—that is, ploughed two inches deep, never manured, and suffered to be overgrown with blue grass. One field of twelve acres actually produced only three bushels of rye to the acre the year before I purchased it. In a few years I succeeded in raising twenty-eight bushels of wheat to the acre, by actual measurement, and this year the same field produced four hundred and forty very large shocks of white bluestem. And I had a field of six acres adjoining, which all my harvest hands considered still better. I had also twelve acres on my last year's cornfield, seeded after the corn was cut up, which was really beautiful. The heads were large and full, the grain stood very regular, and the straw was 'as bright as leghorn.'"

The very striking improvement, as detailed above, effected by our Washington Co. friend, make us profoundly solicitous to know the means used by him, and we are sure our readers will generally participate in our solicitude. Will our friend give us a paper upon the subject, minutely detailing the processes and agents used by him. Such facts are highly interesting, and naturally excite an intense desire to know more. *Ed. American Farmer.*

IMPORTATIONS OF FOREIGN WHEAT EXPECTED.—The *Journal of Commerce* states that three ships are on their way from Cairo, in Egypt, to this country, laden with Egyptian Wheat. This is certainly bringing coals to New Castle.

THOUGHTFUL.—Our kind little farmer friend, Master Herman Schetter, of Baltimore County, in the beginning of last month, sent us a present of the largest, best flavored, and finest, Irish Potatoes we have seen of the present year's growth. His present was the more grateful to our feelings, as it came from one who occupies a warm place in our heart—from one whom we esteem as the personification of truth, fidelity and honor—and who, though just verging upon his teens, pursues his rural labors with a degree of intelligence, zeal, and industry, which many of mature years might emulate with advantage to themselves and their country.

## ON The best plan of Farm-Yard Buildings

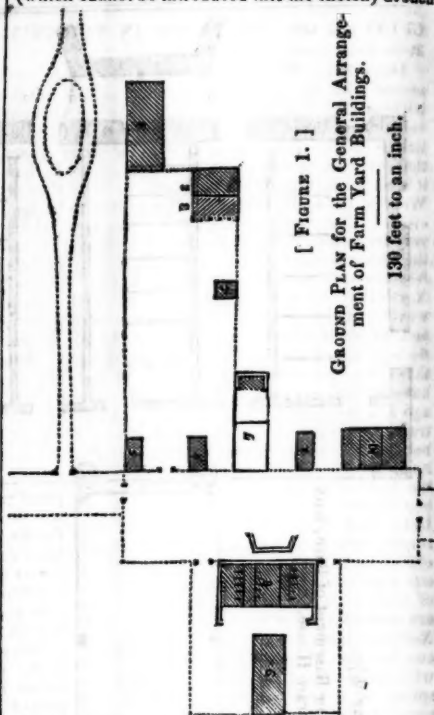
### AND THE MANAGEMENT OF THE FARM-YARD.

In the arrangement of farm yard buildings, much diversity must necessarily exist—arising not less from the infinite variety of locations where they must be placed, and the great disparity in the pecuniary abilities of those by or for whom they are to be erected, than from the peculiar wants of farms of different sizes and modes of management—yet, in some general features they should agree, and any purpose is to give a plan suited to a farm of moderate size, and under fair cultivation.

The first point to be considered is the location of the buildings, in reference to the position and division of the farm. It is presumed that every good farmer has his fields so arranged that each can be approached by a lane or road, without passing through another enclosure. This can generally be done by one lane, or, at most, two, crossing each other; and on the main avenue the farm-yard buildings should be placed, so that they may be of easy access. They should be at good distances from each other, so as to be less liable, in case of fire, to a general conflagration, for though the prudent farmer may count the premium for fire insurance as much a necessary outlay as his tax bills, still it affords but a poor remuneration in case of disaster, for though by the aid of the insurance company he may be able to bear the loss of a barn or granary, yet suddenly to have all destroyed, would prove, in most cases, an irreparable injury. All the buildings should be in the rear of, or laterally from the dwelling, as nothing has a more unfavorable appearance, in approaching a farmer's home, than to be compelled to pass by, or perhaps through the barn-yard—alongside of the pig sty—and, perhaps, have the whole stock of swine, geese, ducks, &c. straggling across your path, and seemingly, at least, disputing the approach to your neighbor's domicile. All domestic animals cause filth and litter; and it should be no less the proper care of the farmer to screen this from view, than it is to husband it up as the main source of fertility to his land; and while few of us can afford to expend much in ornamenting the barn, corn-houses or hen-roosts, let the stock, and the buildings for their accommodation, be kept from the front of the dwelling.

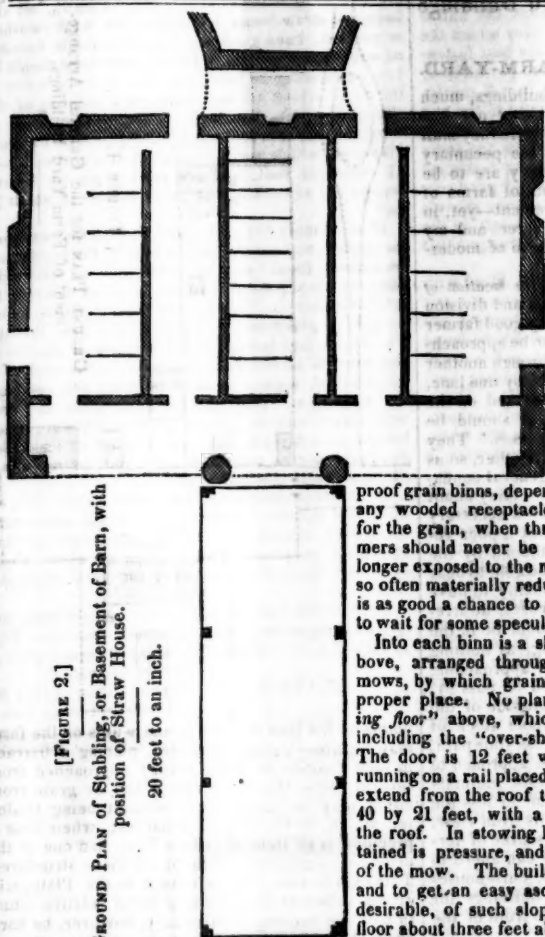
By referring to the Plate No. 1—which is a sketch of the general relative position of the principal buildings necessary—it will be seen that the avenue to the dwelling, after passing it about 200 feet, turns at right angles; and by running a close board fence, seven or eight feet high, from the dwelling to this angle or turn, the whole arrangement is concealed from the observer in front, while at the same time this close fence screens the kitchen yard and poultry range, and gives a warm exposure for grape vines, bee hives, &c. The position of the dwelling (1) is indicated, as every building should have reference to it, as well as to the others. Nearest to it is the pump and wash-house, dairy, meat house and woodshed (2 and 3); then the poultry-house (4) and work shop, (5)—none of which may, perhaps, be strictly considered as "farm-yard buildings," yet all very necessary, and therefore introduced into the plan. Next are the corn houses (6, 6) and pig styes, (7), the barn, (8), straw house, (9), and wagon house,

(10), with tool house above. Lastly are barracks, (which cannot be introduced into the sketch) at such



points on the lane or lanes as the wants of the farm may require—always, however, placing a barrack in such position as to be readily approached from several fields, that the crops of hay or grain from either may be stored away without being hauled far, which, in the season of harvest, when time is precious, is an item of great saving, and one of the principal arguments in favor of these structures. This explanation, with reference to the Plate, will give a sufficient idea of the general relative situation of the buildings, which may, however, be variously changed to suit different circumstances, taking care to maintain a convenient approach to all, without too close proximity.

By far the most important building is the Barn. (See perspective sketch.) The drawing herewith given is for one of 60 by 40 feet, including an "overshoot" of 8 feet; the basement of stone or brick, and the upper part of frame; which will cost about \$700, not including the labor of hauling, or the value of stone and such heavy timbers as make the frame, which differ greatly in value in different situations, and of which every one can most easily estimate the cost in his own particular neighborhood. Plate No. 2 shows the ground plan of the stabling or basement, which is 9 feet high, and will accommodate from 18 to 20 horses and cattle, with two passages or "entrances," each 8 feet wide, from which every animal has its food given to it, without passing behind or alongside in the stall. The stalls are 4 feet wide for horses, and 3 feet 6 inches to 4 feet for cows. From the front of the manger to the wall or parti-



[FIGURE 2.]

GROUND PLAN OF STABLING, or Basement of Barn, with position of Straw House.

20 feet to an inch.

on this side the earth should be dug away for a space of 4 to 6 feet, down to the level of the stable floors, and so graded that all water falling into the area thus formed, shall pass out at each end of it. The object of this is to prevent that dampness of the stable walls which they must have, if against the earth, and to admit of windows, with one or two doors, by which to enter the stables directly from the lane, without the necessity of wading through the manure of the yard in front. All the doors of the stables should be of slats, and the partitions the same; this, with the windows, will admit both light and air, while the hay-funnels leading upwards to the mows above, act as admirable ventilators.

It cannot be too earnestly urged to provide for the thorough and complete ventilation of the stabling, as well as to permit them to be well lighted. Any one who has opened a close stable where several horses have passed the night, must have observed the strong ammoniacal exhalation that has greeted him,

tion in the rear is 13 feet, allowing ample room for harness to hang behind each horse, and to pass behind the cows at milking time, or when cleaning out the stables; also avoiding that crowding and close packing of the stock which is as deleterious to brutes as to men. Into each passage passes a "hay funnel" from the mows above, and shutters or tubes from the granary floor, by which the food is conveyed directly in front of the animals and can be readily distributed as required. The "over-shoot" may be supported on piers, (as on the ground plan,) or these may be dispensed with, (as in the perspective view,) if "bridge-framing" be adopted—this, however, is expensive. The second story is 8 feet high, and includes the granaries or bins, arranged so as to contain such grain as may be immediately needed, or which will not remain there long, for despite all the prescriptions for making rat and mouse-proof grain bins, depend on it, these pests will get in or through any wooded receptacles we can contrive, and the best place for the grain, when threshed, is the mill or the market. Farmers should never be speculators. When sold, the crop is no longer exposed to the numberless sources of depredation which so often materially reduce the yield of the harvest, and there is as good a chance to get the top price, when ready to sell, as to wait for some speculative turn in the markets.

Into each binn is a shutter or tube from the threshing floor above, arranged through that floor next to the breast of the mows, by which grain or cut-straw can at once be sent to its proper place. No plan is necessary for this or the "threshing floor" above, which is also the whole depth of the barn, including the "over-shoot," say 40 feet, and is 16 feet wide. The door is 12 feet wide and 12 feet high, hung on rollers running on a rail placed under the eave of the roof. The mows extend from the roof to the floor over the stabling—are each 40 by 21 feet, with a depth of 23 feet, beside the slope of the roof. In stowing hay or straw, the great object to be attained is pressure, and this is effectually attained by the depth of the mow. The building should, if possible, front the South, and to get an easy ascent to the threshing floor, a hill-side is desirable, of such slope as may bring the second or granary floor about three feet above the ground on the upper side; and

stiffing the breath and blinding the sight. If greater attention were paid to this particular, in the construction of stables, we should find fewer cases of blindness, heaves, and staggers. For horses, use hay boxes, not racks, for it is not only a more natural mode of feeding than when the animal is compelled to raise its head to get at the hay, but it prevents the seeds, dust, &c. from falling into its eyes and nostrils. Racks seem best adapted for cows, as their horns interfere with feeding from a box deep enough to contain the necessary quantity of hay or straw. The stable floor should be the earth, kept well covered with litter, and when the stall floors wear down or become uneven, let them be filled in with a tenacious clay, so as to be nearly level—rather raised towards the horse's head.

For haltering horses, use the leather head-halter, with a rope for the fastening. This rope should pass through an iron ring firmly fastened to the hay-box or manger, and at its lower end let there be

suspended a wooden block of about a pound in weight, and regulate the length so that when the horse's head is in its natural position, the block shall rest on the ground. This always keeps the halter straight, and affords no loop into or over which the animal may get a foot. Neat cattle are best fastened with the chain halter, long enough to permit their lying down without fully tightening it. A similar contrivance of suspending a light weight to the end of the halter, which is made to run through a ring, is equally applicable as to horses, and for the same reasons. The passages or entries being furnished with troughs for mixing feed; a supply of good curry combs and brushes, *to be well used*—some shovels and manure forks, with a lump of rock-salt in the bottom of every box, and the stable arrangements may be deemed complete.

The second, or granary floor, may be fitted with such bins as may be found most convenient; and closets should be here arranged for the harness not in daily use. On the threshing floor should be found a railway horse-power, with threshers, and a cylindrical cutting-box—a *horse-fork*, for unloading hay, and a good wheat fan should also be present. These, though appendages to, rather than parts of the barn, are so very necessary to economy in time and labor, that they warrant at least a passing remembrance in noticing the arrangement of the building.

From opposite the middle of the barn, and at about the distance of 10 feet therefrom, extending across the yard, may be erected a straw-house. This position has many advantages—the straw at the time of threshing is conveniently deposited in it, where it is at once ready for the use of cattle—and it divides the yard into two parts, which is of great utility, as thereby a separation is effected between such cattle as require it, and it affords a shelter for them. This straw-house is raised on posts to the height of 9 or 10 feet, on which the square timbers or sills are laid, (or the end farthest from the barn may rest on a stone wall raised to the proper height, and forming part of the yard enclosure on that side,) and the superstructure, of frame, may be carried up to any desired height. The width of this building should be not less than 16 feet. From the side sills to the ground, nearly meeting these, are placed straight smooth bars or rails, (good fence rails will answer, by being smoothed of all splints and knots,) thus forming a huge double rack. The straw thrown out from the small door or the threshing floor, falls at once into this receptacle—and as it is drawn out by the cattle below, it is continually filled in by the quantity pressing from above—thus saving much time and labor in strawing the yard cattle. For the convenience of a passage from one division of the yard to the other, the space between the straw-house and barn may answer—or, if it be desired, a passage may be left at any point under the straw-house, by simply throwing timbers across the sills at such point, and leaving the part beneath without the rack bars or rails.

The barn-yard should be effectually enclosed—either by a stone wall or post and rail fence; and have two gates, one on each side of the barn, and be so graded as to avoid drainage—unless that drainage be received into a cistern, and from thence spread over the land as often as occasion or convenience may dictate.

An abundant supply of pure water in the yard, and accessible to every animal therein, is absolutely requisite. The mode of obtaining it, whether by the natural flow of a stream, pumps, water-rams or

other hydraulic apparatus, must be left to the judgment of the owners—so the water be obtained, the manner is of little consequence. Finally, let the barn and straw-house be thoroughly white-washed or painted; have good rain spouting, and be furnished with lightning rods. To the barn there should be two—extending 10 feet above the ridge or comb of the roof—which are necessary for a building of the size of the one described. They may be made of wrought iron tubes, about  $\frac{3}{8}$  or  $\frac{1}{2}$  inch in external diameter, which may be obtained at a cost of about 11 cents per foot, and are readily put up by the screws cut at each end of every length of about 10 feet.

If the theory that the electric fluid passes along the surface, and not through the body of the conductor, be correct, these tubes are preferable to solid rods, because they possess two surfaces, an internal as well as external. They must have good points, either of gold or platinum; and where they pass through the staples that fasten them to the side of the building, must at all events be protected by the neck of a glass bottle, a piece of horn or other non-conducting substance. Without this precaution, the rods will cause serious danger to the building. They should also descend into the ground at least four feet, and then be turned off for a foot or more in a direction from the building.

If the straw-house and over-shoot to the barn do not afford sufficient shelter for the stock, sheds must be erected at such points as will best answer that important purpose. The position of these sheds must depend on the situation of the yard and buildings.

Next to the barn in importance, is, perhaps, the cart and wagon shed, with tool house above—see Fig. 1, Plate No. 3—which represents the ground plan of

(Figure 2.)

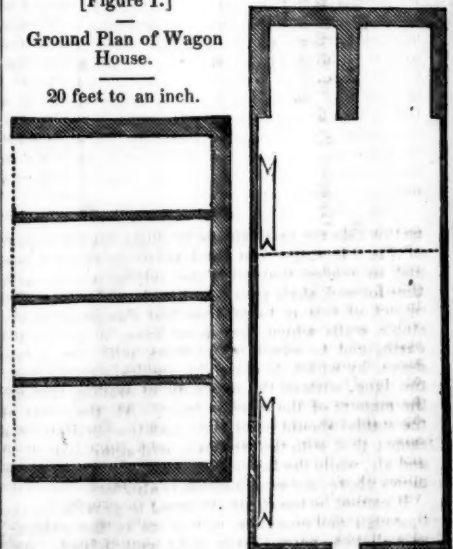
Ground Plan of Hog Sty.  
20 feet to an inch.

PLATE 3.

[Figure 1.]

Ground Plan of Wagon  
House.

20 feet to an inch.



a building 40 by 25 feet, being sufficiently long for four stalls or compartments, and deep enough to allow the doors to be shut when the wagons are in it.



The height of the first story is 10 feet, and of the second 6 feet to the square, which will be found a convenient depository for all tools not in actual use. The building may be of frame or stone—the former is generally less costly—but it should, as ought every wooden building, rest on a stone foundation, 15 inches above the ground.

The corn-houses must be for the reception of that grain alone, and for no other purpose. No improvement appears susceptible on the common form, which is a frame and slatted building, raised about four feet on posts, which are tinned for two feet, at least, of their length, next to the upper end. They should stand lengthwise—North and South—so as to present an end only to the driving Northerly storms of winter—have a slat floor, and be not more than 8 to 10 feet wide. Two doors are necessary—one above the other—so as to allow the house to be completely filled. When it is necessary to take out corn, it should be conveyed to the barn, and there shelled, either on the threshing floor or in the granary room, as convenience may dictate. If the corn-house is to be opened every time the stock require food, some easy way of getting into it will be devised—such as a short ladder or temporary steps—and these will afford as ready access to rats and mice as to men. The same will be the case if the building be used for any other purpose than that for which it is properly intended.

If granaries be deemed necessary for threshed grain, to be kept for any considerable length of time, they should be separate structures, raised on posts, and entirely isolated, similar to the corn-houses.

Figure 2, Plate No. 3, represents the ground plan for the sty, with a building over one end, in which may be stored such short corn, or "nubbins," and other kinds of food, as may be requisite for fattening; which does not generally last more than six weeks or two months. The size of a sty sufficient for fattening 4000 or 5000 lbs. of pork, should be about 22 feet wide and 50 or 60 feet long. One end of this, for the distance of about 12 feet, is covered by the building already mentioned; and under this, and extending out from it say 15 feet, the floor of the sty is raised some two feet above the level of the earth, and effectually paved with heavy stones, thus affording at all times a shelter for the swine, with a firm, dry space, on which grain, &c. may be fed to them. The troughs to be placed wherever most convenient.

The lower part of the sty—being that portion not paved—should be kept plentifully supplied with straw, corn-stalks and other litter, which the hogs will manufacture into the best manure, with a rapidity scarcely credible. Previous and subsequent to the time of pen-fattening, this sty, by being divided as convenience may dictate, will be amply sufficient for such sows as may require separation, and for the stock pigs. The building over the end of the sty should be raised about 3½ feet from the paved floor, and rest on a tight stone wall, leaving open the side next the yard or pen. For farrowing sows, or when with litters, a good supply of straw under the building is necessary. A more limited quantity will suffice for stock hogs, but for fat swine very little "bedding" is necessary or proper.

The position of barracks should be as already designated, taking care to select a dry spot, where water does not settle—a knoll is the best. Let them rest on stone foundation walls, raised some 15 or 18 inches above the ground, and be boarded up all around to the height of 8 feet, to prevent the stock

from pulling at the contents. A convenient size is 40 by 20 feet, and 16 feet high to the square. This will contain about 25 tons of hay, if properly put in. When putting in hay or grain—particularly the latter—see that the middle is always kept full, as in stacking. The fact of there being a roof above, causes many to suppose that whatever is beneath it must be safe, yet, if the middle be depressed, the ends of the sheaves catching the water, by the laws of nature it will run downward, which is into the bulk; and every straw acts as a conduit to the interior of the mow, while the first sunshine or breeze drying the outside, the farmer is deluded into the belief that all is well, in which he is grievously disappointed when he unloads the barrack; the disease he then perceives is at the heart, and it is too late for remedy. Never fill the whole barrack at once, but let the hay or grain be put in by sections—that is, filling about one-third of the building, fully up to the roof, at a time. This will allow it to be taken out in the same way, by instalments as it were, and obviate the danger of having the contents wetted, when the whole building was partially filled, which would expose a large horizontal surface to the action of driving rains.

Whether a poultry-house may or may not be considered as a "farm-yard building," is not material; but of the proper kind there can be but little doubt, and that is a small one. Poultry are always troublesome, when kept in large numbers and allowed too "large a liberty." A few chickens, properly kept, are necessary and profitable. A building 12 feet square, of frame, furnished with nest-boxes and perches—kept clean and warm—is all that is necessary, so far as their convenience and accommodation is concerned. The manner of feeding is simple—let them have grain, particularly corn, and free access to pure water, sand or fine gravel and lime, with an occasional treat of pieces of fresh meat or finely powdered bones.

The work-shop deserves a passing notice, for without it no farm is complete. It should be convenient to the tool-house, and be supplied with a good set of carpenter's tools, and if it does not furnish not only a pleasant but a profitable place in which to spend a rainy day, then the writer's experience, as well as that of many others, is worth but little.

With regard to the management of the farm-yard, a volume would be necessary to give the detail. A few general remarks must suffice. Much, and perhaps enough, has already been said on the importance of well-lighted and ventilated stabling—to this a recommendation may be added, to keep the stables clean and dry. Every particle of damp litter should be daily removed, and a fresh supply immediately furnished. Regularity in the time and quantity of feed is essential, and perhaps no more effectual manner of attaining economy in this item can be devised. A change of food is also highly proper—the quantity to be just what the animal will fairly consume, and no more. This, of course, will depend upon the amount of labor it is to perform—but whether busy or idle, never confine a horse entirely to hay. He should, at all times, regularly have a greater or smaller quantity of grain or mash feed. In no part of the farmer's outlay is there generally a greater waste than in the over quantity of hay fed to the horses; which, while it is a serious loss to the owner, does no benefit to his animals. The principal use of hay should be for the purpose of distension, that the organs of the stomach may have an opportunity of digesting its contents; and al-

though hay or dried grass possess much nutritious matter, yet if this matter be partially supplied by grain, it will not be necessary that the horse should over-distend the stomach that he may get sufficient nutriment to sustain the system. Where grain, or mash, is judiciously used, an idle horse will occasionally relish a box of clean oat straw, which, for this purpose, is of far more value than most persons imagine. Salt should always be freely supplied as before suggested. Every animal must have its own particular stall, and be effectually haltered. Cows should not be confined to their stalls through the day, and in fact not during the night, except when the weather is cold, when they should have a good shelter, well protected from the wind, under which they may find plenty of clean straw, with a supply of pure water, and salt; to which they may resort at pleasure.

In summer, cattle prefer to graze at night; when not only is the grass fresher, from the dew, but they are not exposed to the heat of the sun, or bites of flies; hence the propriety of turning them into the pastures after the evening milking.

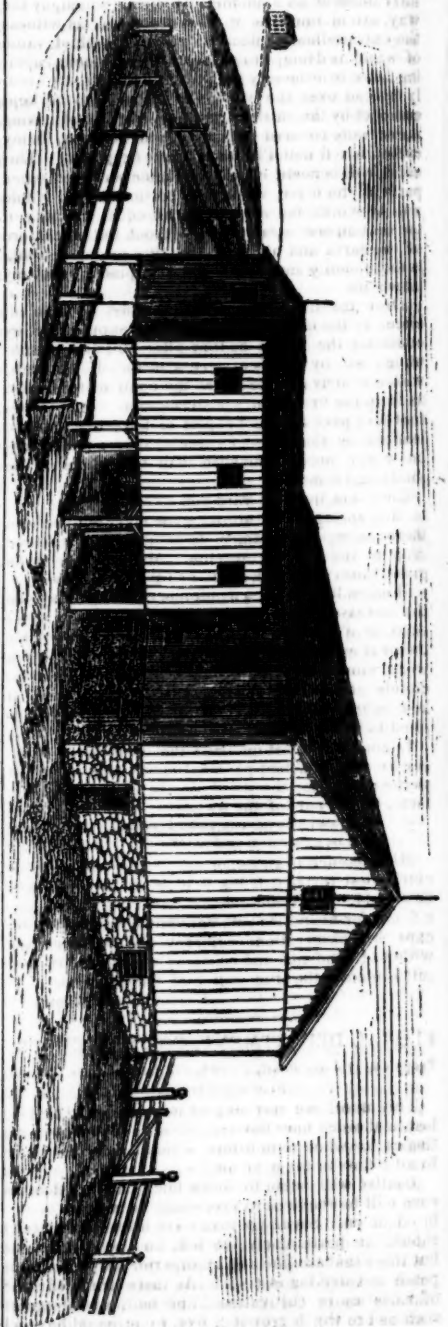
To ensure a full supply of milk, cows must not only be well fed, and otherwise well cared for, but they must be *well milked*. In this, as in many other matters, the animal economy is such as to regulate the supply proportionate to the demand; and not only must they be "milked clean," but at *regular periods*.

"Order is the first law of nature;" and in all our care for the animals about us, let this law never be violated. While in the shop, the warehouse or the counting-room, the motto should be "a place for everything, and everything in its place,"—in our stables we should read it: a *time for everything, and everything at its time*.

To increase the *quantity* of manure that may be supplied from numerous sources on the farm, is of not more importance than to improve its *quality*. The quantity will measurably depend on the number and kind of stock that may be kept, as well as on the scanty or ample supply of straw, corn-stalks and other such absorbents, as well as on the diligence displayed in husbanding such as is made, and increasing it by the addition of rich mould from fence corners, ditch drainings and woods-earth, but the *quality* of it will materially depend on the judicious care of the husbandman. The contents of the barn-yard will mainly consist of straw and such like substances, which being mixed with the animal excrement that is continually being supplied, the whole mass is disposed to fermentation, and consequent decomposition, more or less rapid, as the conditions of heat, air and moisture may exist or be admitted to it. During the stages of fermentation and decomposition, a large portion is thrown off by exhalation, unless the state be so modified as to arrest such vaporization—and it is during these stages that the manure is in the best condition to be applied to the soil, for it then is more readily dissolved, as it were, by such moisture as may be supplied, and better fitted for the food of plants by being readily carried down to their roots by every rain that moistens and loosens the soil. Hence it is not desirable to allow the fermentation to be too rapid, or the decomposition to progress too far, while the manure is in the yards or styes. The full development of these states should take place after the manure is on the soil.

To keep down too rapid fermentation in the yard, but little care is necessary during the winter, the

### PERSPECTIVE SKETCH.



temperature being too low to admit of it to any great extent, but to arrest the exhalations, particularly those of an ammoniacal nature, (which, by the way, are of immense value when fixed, as witness the extraordinary effects of guano, the chief value of which is deemed to consist in its ammonia,) nothing more is necessary than to keep the manure evenly spread over the yard, and allow it to be kept compact by the cattle in walking over it, and having it frequently covered with a light coat of rich, loamy earth, mixed with Plaster of Paris (gypsum.) This earth will become equally valuable with the other parts of the mass, while any portion of the whole will be worth far more than an equal quantity of the decomposed straw, &c., without the admixture of the earth and plaster. By this means not only is the quantity increased, but the quality infinitely improved.

Drainage from the farm-yard must be avoided, either by the quantity of absorbents supplied, or by collecting the liquids as they filter out, and distributing them by means of a cask mounted on wheels, with a contrivance to allow the contents to escape as from the "rose" of a watering-pot. The liquids that will pass from a heap of manure that may be leached by the rains of three or four months, will be worth more as manure than the whole of the solids that remain.

Clean out the barn-yard and styes during the winter and spring, never allowing the manure to remain there during the summer, to be put on the wheat crop in the ensuing autumn. Manure spread on grass lands late in winter, or early in the spring, will not only produce a handsome remuneration from the increased grass crop, but will give a far better account of itself when the sod is turned down for the next crop of corn or wheat. Thus applied it is worth more than if ploughed under for corn, immediately after being spread, and still more than if kept in the yard during the summer, and then applied to wheat or rye.

In conclusion, let me urge the propriety and necessity of a constant personal supervision of, if not participation in, the daily routine of duties of the farm, on the part of the owner.

"He who by the plough would thrive,  
Must either hold or drive."

His presence is all important; under his hand his cattle best thrive; in his foot-prints the land will best yield. No trifling detail should be too insignificant for his notice; no dereliction from duty escape his observation. Energy and perseverance without; prudence and economy within; and the result is plenty, the true source of independence.

HARFORD.

## FLORAL DEPARTMENT, FOR SEPTEMBER.

Prepared by John Feast, Florist, 279 Lexington st. for the American Farmer.

This month we may expect more bloom than the last, and much finer flowers, owing to the nights getting cool, and more moisture, which is very essential to all plants in the open air.

*Dahlias* will begin to bloom finely, and particular care will be required in protecting them from being broke down. Seedlings that have been planted out should be particularly labeled, and none retained but those that are fine and of superior shape, cupped petals and striking in color. As there are hundreds of varieties in cultivation at present, by selecting such as are worth growing, every one could have a

choice collection, as they require no more care than the most common variety.

*Chrysanthemums* will need their sized pots for flowering; give plenty of water, and keep them tied neatly up, so as to give a proper shape, which adds greatly to their beauty when in bloom, and be kept as dwarf as possible.

The autumn flowering herbaceous plants will be in bloom, and those that have flowered, and the seeds ripe, might be gathered and sown in the borders for next year's flowering. Let them stand this winter, and transplant in spring, when time will be had to remove all such roots as are required to fill up the vacant space in the borders.

*Annual Seeds*, that are ripe, should be gathered and carefully dried before putting away; and such as have not been sown for winter flowering, may be put in now, such as Mignonette, Schizanthus, Nemesis, Iberis, of sorts, and any others that will bloom well either in pots or boxes. A succession may be kept up in this way, by sowing, at intervals, any of the free blooming varieties.

Tender *Bulbous* roots may be potted this month, as *Ixias*, *Lacineulias*, *Oxalis*, *Babianas*, *Hypoxis*, *Gladiolus*, *Cyclamens*, &c. After potting, let them stand, exposed in the open air, and be watered occasionally till they make appearance of growth; they will then require more water in a growing state.

*Greenhouse Plants*, of all kinds, will require to be re-potted, or fresh drainage, before putting into the houses next month. Prune such as are not in good shape, and cleanse them from the different insects that infest them, so that they may have a healthy appearance. If this be strictly attended to, they will be easier kept through the winter, and have a much finer bloom than when put in the house without the least care, as is often the case in injudicious hands.

*Verbenas* will be in their greatest beauty the beginning of the month. Of the varieties lately introduced, some are good; such as *Defiance*, *Satellite*, *Rosy Morn*, *Beauty Supreme* and *Briell's Striped*, are beautiful, and quite an acquisition to those already in cultivation. They may be propagated from layers, &c. for a stock next spring, or from seeds, gathered and sown through the winter.

*Budding* may be done yet of many plants, as *Roses*, *Oranges*, *Lemons*, *Persian* and new *Lilacs*, *Robinias*, and any other ornamental tree or shrub. Be careful to untie the mat or twine at a proper time, so as not to injure the bud; the string might be left on about three weeks; and in the spring head the stock to the bud, but be careful and keep off all superfluous shoots, so that the strength of sap will cause the bud to grow more freely.

*Peonies* may be removed the latter part of the month with safety, and divided, if required.

*Ten Week Stocks*.—Sow seed for flowering plants in spring, and pot off all seedlings large enough, as *Chinese Primroses*, *Pansies*, &c.

*Camelias* will need attention, and those inarched cut off if already taken; keep them in a shady, cool place. After some time they may be exposed more fully to the light. Give them frequent syringing.

Prepare the borders if vacant for bulbous roots next month.

We refer to the advertisement of Messrs. Reynolds, in our advertising pages.—We marvel that our Commission Merchants, whose business engagements are almost exclusively with the farming community, do not more generally advertise through the medium of the "Farmer."



BALTIMORE, SEPT. 1, 1850.

## TERMS OF THE AMERICAN FARMER.

\$1 per annum, in advance; 6 copies for \$5; 12 copies for \$10; 30 copies for \$20.

ADVERTISEMENTS inserted at \$1 per square of 12 lines, for each insertion. In case of the continuance of an advertisement for six months or longer, a liberal deduction will be made.

Address, SAMUEL SANDS, Publisher, At the State Agricultural Society Rooms, No. 128 Baltimore st. over the "American Office," 5th door from North-st.

## Prizes! Prizes!! Prizes!!

Competitors for the Prizes offered by us in our July No. to those who shall obtain the largest number of new subscribers to the *American Farmer*, are reminded that the competition is open until the meeting of the State Society, on the evening of the 22nd. of October.—An opportunity is offered of doing good in various ways—to the public, by the dissemination of useful knowledge—to us, in the increase of our subscription; and to the individual who may take the trouble of canvassing his neighborhood, by obtaining 30 subscribers at \$1 each, and remitting \$20 for the same, a handsome commission is thus afforded, and in proportion for any greater number, with the chance for a splendid silver pitcher or goblet in addition.

## OUR NO. FOR SEPT.—MR. RUFFIN'S ESSAYS.

—We continue in this No. the Essay on Draining, by this eminent agriculturist. It will, we expect, when completed, form one of the most complete and practical essays upon the important subject on which it treats, ever published in this country. One or two Nos. more will finish it, when the writer will favor our readers with papers upon other equally interesting subjects.

*Dr. Higgins' Report.*—The portion of the Report of the State Chemist which we published last month, will be read with interest, particularly by our friends of the Eastern peninsula. We would call the attention of the industrious farmers North of us, and also of emigrants intending to make a settlement in this country, to the great advantages pointed out by Dr. H. on the Eastern Shore of our State—and the same may be said of the counties of Virginia on the same shore.

*State Society's Proceedings.*—It will be seen that at the last quarterly meeting of our State Society, sundry additions were made to the Prize List. We hope the display of Horses and Mules will be much greater than that of last year, as no doubt it will be. The display of Agricultural Implements and Machinery will be very large. We have reason to anticipate that the inventors and manufacturers from distant States will be here in great force, to compete for our liberal prizes. We bid them all welcome—the field of competition is open, and a hearty welcome tendered to all who may visit our Show.

The Essay of "HARFORD," "On the best plan of farm-yard buildings and the management of the farm-yard," which we publish in this month's number, must attract attention. It is one of the essays which were written for the prize offered by us last year, and though its author failed to win the prize, the perusal of his excellent paper will win for him "the

golden opinions of all sorts of men." By examining the sketch of the buildings, and reading the very lucid explanations given of their several uses, it will be found that he has fully embraced the entire economy of the farm-yard, met its necessities and wants, and has been so happy as to accomplish all at a comparatively small expense—things to be cherished in farmers' hearts. We commend it most earnestly to our readers.

The communications of Messrs. *Holcomb, Dupuy and Du Val*, will well repay the reader's perusal. Facts are presented by these writers, which are worthy of consideration.

ESSAYS.—The liberal premiums offered by our State Society, we hope will not fail to attract the attention of writers upon agricultural subjects.

BEAUTIFUL WHITE WHEAT.—We have received from Wm. M. Marshall, Esq. of Hagerstown, a sample of "old English white wheat," raised by Wm. Dellinger, Esq. on the old Montpelier farm, Washington Co. Mr. M. requests us to compare this sample with that received by Mr. Chamberlain, and give our opinion as to which is best, in our present number.—That from Mr. Chamberlain, is a shade whiter than Mr. Dellinger's, but in other respects there appears to be no difference, so far as we can discern.—Mr. Dellinger, we learn, may have 1 to 200 bushels for sale, but at what price delivered here, we are not informed.—He will oblige us by letting us hear from him on the subject, and also, whether it is an early or late variety.—The sample can be examined at our office.

Mr. Marshall says that he has now 8 acres corn growing near town, part manured with Guano, part Fertilizing salts, and part with Bituminous Coal ashes; so far, he can see no difference.

RED WHEAT.—A sample of Zimmerman wheat, raised on the farm of A. P. Giles, Esq. has been left at our office—it is decidedly the handsomest specimen of red wheat we have seen this season. Some of it can be had for seed at \$1.25 per bushel.

A beautiful sample of yellow Mediterranean, worthy of the attention of farmers, can also be examined at our office. It was raised on R. N. Milburn's farm, in St. Mary's. It can be had at \$1.50 per bushel for seed.

Delaware.—A letter from a friend in Delaware informs us that a meeting of the Agricultural Club of New Castle was held on 15th ult., and that the members were all in high spirits for the Baltimore exhibition. A large brood of the "Blue Hen's Chickens" will be with us, and we trust that they will bring with them a full representation of their stock, produce, &c.

PREPARATION OF GUANO.—A friend suggests that much time may be saved by those using Guano, in its preparation, by grinding the lumps in a corn and cob crusher. He says, that he accomplished in one day, what would have taken him three weeks by the ordinary mode. The plates should be taken out and cleaned after the operation.

Richardson on the Potato Rot and Marsh Miasmi.—We have received from the author, a copy of this work, and shall in our next notice it more at length. Dr. Richardson, the author, it will be remembered, presented to the State Society, at its last annual meeting, some views upon the subject, which elicited much attention. The work can be had of Messrs. Armstrong & Berry, of this city.



## SURPLUS WHEAT IN CANADA.

We have seen it stated in our exchange papers, that there is a SURPLUS of 4 MILLIONS of BUSHELS of WHEAT IN CANADA. Now, if this large quantity of wheat is to be introduced into our country, DUTY FREE, as prayed for by the advocates of the Canadian reciprocity bill, its effect will be to reduce the value of the wheat grown by our own farmers, 20 cents per bushel, that being the rate of protection afforded by the present tariff to the American growers.—Such a bill is now before Congress, and it becomes every wheat grower in this, and the other wheat growing States, to send in petitions and protests against its passage. Now is the time for farmers to act. Unless they raise their voices against it, their silence will be construed into consent, and injury will be the consequence. Why should the Canadians, who pay no tax for the support of our government, be permitted to enjoy the same privileges as American agriculturists, who pay seven-tenths of the taxes which support the General Government? He that does not care for his own household, is worse than an infidel. Wheat growers, get up your petitions and protests, and send them to your representatives in Congress. Act forthwith.

## TRANSACTIONS N. Y. STATE AGRICULTURAL SOCIETY.

We are indebted to the politeness of B. P. Johnston, Esq. for the volume of this work for 1849. It comprises 944 pages of interesting matter of a practical and scientific character, as connected with the pursuits of agriculture and its kindred arts. Besides numerous communications of deep interest, we find in its instructive pages, the able work of professor Norton, entitled, the "Elements of Scientific Agriculture"—the Address and Lectures of professor Johnston delivered before the N. Y. State Agr. Society—an interesting series of analyses of several varieties of apples; and of the Rhubarb plant—a comparative view of the fat and flesh forming properties of the potatoe and the apple, as also a comparative table, showing the constituent elements of the apple and several other fruits, by J. H. Salisbury, M. D.; together with a most valuable paper by Jsa Fitch, M. D. entitled,—"A Historical, Topographical and Agricultural Survey of the county of Washington, N. Y." in which, besides a full account of the mineral wealth, agricultural and other resources of that county, there is therein contained, a treatise on sheep, their diseases, treatment, &c.

Taking the present volume as a whole, we view it as being decidedly the most interesting and instructive one that has yet been published by the Society, valuable as its predecessors have been.

We hope to have it in our paper, at some no distant day, to return the compliment to the N. Y. Society, by the presentation of a similar work from the Maryland State, or Central Society.

Whilst on this subject, we would call the attention of the several standing Committees of our State Society to the fact, that the appointment of these committees had some object in view—At the two last annual meetings, but few Reports were received from them, much to the disappointment of the Society—on casting our eye over the list of committees, we find the names of gentlemen whose experience and ability are well known, and who could furnish Reports upon the various subjects committed to them, which we have no doubt would compare in practical value with those from any other source.—We call upon them, then, to discharge the duty which has devolved upon them—and more especially do

we urge upon the Chairman of each, to see that the subject is not lost sight of—let them correspond with their colleagues, and have their reports prepared at the meeting of the Society, which is to take place on the evening of the 22nd Oct. (the day before the commencement of the Exhibition.)

*Seneca Co. Agr. Society.*—We owe our acknowledgments to the officers of the Agricultural Society of Seneca County, New York, for a pamphlet copy of their proceedings for the year 1849. It comprises 96 pages, and is beautifully gotten up—worthy of being a model for every Society throughout the Union. It breathes the true spirit, and proves that its conduct is in the hands of the right kind of men, of men combining practice with science, stimulated by a zeal as indomitable as well directed.

A writer in the "*Rural New Yorker*," of August 15th, under the signature of "A." has the following paragraph in his communication.

"As a cheap fertilizer—as one that can be obtained in inexhaustible quantities—as one available, or which can be made so—I would propose the use of finely pulverized bituminous coal. From what is known of its ultimate analysis, it promises to afford, at a cheaper rate than heretofore known, the elements of fertility to soils, in a manner available to all, whether of large or small means."

*North Carolina.*—A letter from Chatham Co., N. C., dated 10th ult., informs us that the wheat crop throughout the middle section of North Carolina, was an entire failure, except the Etrurian and Mediterranean. Old seed wheat is now selling at \$1.50 per bushel.

*Charles Co.*—A letter to the editor dated 9th ult. says:—"Our corn crop will be short—one third less than last year; owing to excessive rains, it could not be worked in time, and much on the low land drowned. The Tobacco crop will fall far short of the crop of last year; in fact, from present appearances, will not be the one-half of the crop of last year, which was a very small one."

**PROFITABLE RESULTS.**—A gentleman of this city, whose farm is situated a few miles out on the Frederick road, gives the following results of his farming on a field of 19 acres, the yield of which was a little more than 32 bushels of wheat to the acre:

|                                     |          |
|-------------------------------------|----------|
| 540 bushels sold for                | \$651 36 |
| 70 do for seed, at \$1.25 per bush. | 87 50    |
| Straw sold,                         | 900 00   |
| Chaff and some straw unsold.        | 4938 86  |

**Cost of production:**

|                                     |           |
|-------------------------------------|-----------|
| Ploughing and harrowing 19 acres,   |           |
| at \$6 per acre,                    | \$114 00  |
| Seed for do.,                       | 47 50     |
| Harvesting and Threshing at \$2     |           |
| per acre,                           | 38 00     |
| Bone dust, at \$10 per acre,        | 190 00    |
| Threshing and bringing to market    |           |
| 610 bushels, at 15 cts. per bushel, | 91 50     |
|                                     | —\$481 00 |

**Net proceeds,** \$457 86

**CREDIT OMITTED.**—The Pendleton, S. C. "*Farmer and Planter*," of August, has copied from our journal the first part of the able essay of Mr. Ruffin, "On Draining," without giving us credit; it having originally appeared in our columns, credit was due us. The omission, we take it for granted was unintentional.

## ESSAYS

ON

### Various Subjects of Practical Farming.

BY EDMUND RUFFIN, OF VA.

#### ON DRAINING.

[Continued from page 38.]

##### 3.—Low lands bordering on large rivers.

This third class of low land is much the most important for extent, value, and for present as well as former and long continued productiveness under cultivation. All the large or long rivers of Virginia, nearly throughout their courses on tide-water, are bordered by more or less of the kind of bottom land to be here considered.

There is an important distinction of character, caused by difference of geological formation, of the bottom or low lands above the granite ridge which forms the great and most eastern falls of our rivers, and those on the lower or tide-waters of the same rivers. (The tide-marshes are excluded from consideration, for reasons before stated.) The bottom lands above the falls, are strictly of alluvial formation, which was recent, and is still in progress.—The whole materials of the soil, and of its inferior beds, for considerable depth, have been gradually deposited and raised by the floods of the river, bearing the fine soil washed from the mountain region or high lands, the sources of the upper waters. However elevated may be some of these bottom lands above the level of the river, and safe from ordinary floods, the highest of such bottoms are still liable to be covered by the highest waters, of very rare occurrence.

Next below the falls, also, and for a small extent, the bottom lands are also subject to be rarely inundated by the highest floods of the rivers, and so far have been subject to recent alluvial action, and perhaps have received deposits therefrom. But as to all other and very much the larger portion of these low and firm lands of our tide-water rivers, they are elevated so much above the highest possible rise of the water of the rivers in their present state, that the recent alluvial action of the rivers could never have formed the land. Perhaps geologists would deny that the formation was by any other alluvial action. But whether that term be correctly applied or not, it is certain that these high and flat river margins were all originally deposited by the waters of a mighty and transient flood, of great volume and velocity, which at a far remote period of time rolled from the mountains to the sea, filling the entire valleys of the present rivers, and sweeping along the earth, rolling pebbles and even many large stones, and depositing all at different distances, according to the specific gravity of the deposits and the different degrees of velocity of the flood. This unquestionable operation is what I have elsewhere termed the *ancient alluvial formation* of the high bottom lands of our tide-water rivers, in contra-distinction from the *recent alluvial action* of the rivers as they now exist and operate, and which is still in progress above the falls. My remarks will apply mainly to the high flat bottom lands of the ancient alluvial formation, which are of levels too high to be affected by any freshes or tides of the rivers which they border.

These lands on each river have a distinct gene-

ral character, notwithstanding the many shades and even marked differences of texture of different lands along the same river, and even on different parts of almost every farm along its course. These lands on the Powhatan\* river (below the falls) are of small extent, but of the highest value. They are generally of hazel loam, (or "mulatto" or "chocolate land" in common parlance,) of the highest agricultural value of all the soils in this region. The alluvial lands of recent formation above the falls are of similar soil and still richer generally. The materials of both were derived from the rich and black lime-stone soils of the upper sources of the river, and the rich red hornblende soils of the Southwest Mountain lands. The Pamunkey flats (of ancient formation) below the falls, are much wider and far more extensive than the former; but mostly of a lower grade of fertility. This is because the sources and the valley of the Pamunkey do not begin so high up the country, and the ancient flood did not bring earth from as distant or as rich sources. Again—the Chickahominy rises in the lower country, and its valley does not approach the richer mountain region. Hence, the higher flats of this river, of ancient formation, are generally sandy and of inferior fertility to those of the much longer rivers. These are all the rivers of which I know the bottom lands by personal observation. But by report, it is understood that the very rich bottoms on the Roanoke and the broad, sandy and dry but yet fertile flats of the Rappahannock, have also as distinctive peculiarities as any of the other named rivers.

The breadth of these lands bear no proportion to the size and volume of the rivers on which they border. They spread across the whole valley, from highland to highland, through which each river flows; and the smaller rivers pass through much wider valleys than the larger, and consequently are bordered by much more extensive bottom lands. Thus, the broad Powhatan, below the falls, covers with its water much the greater portion of its whole breadth of valley—leaving but small and detached bodies of the ancient alluvial formation. Of such detached bodies are the most fertile estates on the river, as Curle's Neck, Shirley, Westover, Jordan's Point, Flower-de-Hundred, Wyanoke, Upper and Lower Brandon, and Sandy Point. On the other hand, the narrow Rappahannock and the still narrower Pamunkey, meander through continuous bottom lands which extend across valleys of 3 to 5 miles width.

These bottoms lie in terraces of different elevations, each terrace being very nearly level, or having very slight undulations, and separated from the next higher terrace by a distinct and frequently abrupt ascent. Each terrace may for miles together not vary more than 3 or 6 feet in level of the extreme of different parts. And on the Pamunkey flats the water of streams or rains may be sometimes discharged from the central parts of a farm by a ditch leading to them from either of several different and even opposite directions, and of which the outlet of one might be two miles distant from another.

The drainage of surface-water from such lands is highly necessary, because of the extensive and nearly level surface serving to receive so much rain; and of which supply of water, on the imper-

\* The Indian and proper name of the great central river of Virginia, so long degraded in both sound and meaning, to James,

vious or clay soils, occasionally there is much in excess. The river itself is not a source of wetness to these lands—(excepting the lowest parts subject to be overflowed by freshes, which are excluded from consideration here)—but on the contrary, the river is the great receptacle of water, and by its lower level is the greatest aid to the drainage. Omitting the lowest parts of the “first low grounds” or lowest terrace, the much larger portion of these lands are from 10 to 20 or more feet of elevation above the highest freshes, or tides of the rivers.

Also these bottoms, because of their great breadth, have but small portions, next to the hills or high lands, which are injuriously affected by springs proceeding from the high-land. This small portion, so far as needing (as in general) drainage of under-water (of springs) and by covered drains, must be postponed until that mode of draining is described. Supposing, then, that that remedy has been applied where needed, along the base of the hills, all the great remainder of the broad bottoms will require drainage merely to remove the surplus surface-water supplied directly by rains—or to give sufficient passage and depth to streams proceeding from the springs, or the remoter valleys and ravines of the hills.

For the former object, the means are such as have been before directed for other lands, in ploughed beds and water-furrows, of suitable direction, and descent, (where to be obtained,) and in grips and rain-ditches, discharging into stream-ditches, and these into the river.

The plan of stream-ditches is very simple; and they are much more easy to keep in order than those of the two other classes of low lands before treated. The main difficulty in regard to them is the usual want of sufficient fall, in passing over long stretches of surface varying but little from a level. In such cases, the only mode of obtaining sufficient fall from the stream, is by giving greater depth to the lower end and lower portion of the main stream-ditch.

The manner of the geological formation of these river flats prevents the frequent occurrence of springs. Indeed, these low lands have very little spring or under-water, compared to the higher lands lying adjacent; which higher lands are the sources of nearly all the under-water which anywhere damages parts of the bottom lands.

Except near to the high lands, or the base of the bordering hills, stream-ditches through these lands receive very little sand or gravel. At greater distances from the hills, this cause of filling ditches operates but little, if at all, in the larger stream-ditches. The earth through which they are sunk is rarely of sand, or even a sandy soil; and is usually either rich loam or mud, or stiff clay. Such earth is indeed continually brought into the ditch, by the current abrading, or by the freezing and thawing of the too steep sides of the ditch. But when this happens, the fine earth is suspended in the water for a time, and is partly swept away into the river. Thus, a ditch through a long stretch of such land loses more earth, by being suspended and floated below by the stream, than it receives from all supplies coming from above, or from the margins. And when it becomes necessary, in altering a plan of drainage, to fill up an old stream-ditch of this kind, of long standing, it usually happens that the old banks, or raised margins, are not sufficient for the filling to the original level.

As this land was originally deposited, and its sur-

face shaped, by the mighty flood rushing from the mountains, the level and undulations of the surface and the variations of soils and sub-soils, are such as this formation would indicate. Level as is the surface on a general average, there are everywhere seen long shallow depressions, with intervening low ridges of greater or less width, stretching through every body of such land; and which depressions and ridges are in such directions as were made by the course of the great current. Their direction, and slightly sloping descent, agree in general with the course of the valley, and the river flowing through. These long depressions offer the proper general locations for stream-ditches; and the particular locations must be marked to suit the particular level and direction of the depression, and also the convenience of tillage.

The general rules before laid down as to the location of stream-ditches in the narrow valleys of hilly lands, also apply here, but with less binding force. As the streams of these broad bottoms are less subject to be flooded by rain-torrents—and not at all to be filled by sand from such torrents—and the soil is less exposed to abrasion—there will be less care required to guard against these evils. Long straight stretches are here admissible in the course of the ditches; and turns at very obtuse angles may be risked, where they are much more convenient to suit the straight ploughing.

The great current that deposited the materials of these lands, of course varied in velocity at different places, according to changes of direction and width in the valley, and other causes. Hence, the heavier earth, sand, would be dropped more abundantly in some places, so as to form the broad flat ridges, and clay in others, according to the greater or less velocity of the flood. In other places of the stillest flood, or perhaps at a different time of overflowing, rich black mud would be deposited in the lower places.

Owing to these natural features, so manifestly derived from the peculiar geological formation of the land, the long depressions, which offer the proper sites for stream-ditches are usually of either mud or fine impervious clay. The intervening higher flats are, in some cases, of stiff clay, and in others of sandy loam of various degrees of texture, and so pervious, both the soil and sub-soil, as not to require draining at all.

Indeed, indispensable as is draining for a farm of these river-bottoms, and laborious and expensive as may be the item of drainage compared to that of most high land farms, after all, there is but a small portion of such land that requires any drainage, unless that of ordinary ridge or bed and furrow ploughing and tillage. Even that is not required for drainage on the sandy loam soils, though such tillage is most convenient for even the driest level land—and especially when intermixed or intervening with lower parts for which bedding is absolutely necessary for the purpose of surface drainage.

Before commencing a general system of stream-ditches, or the extensive improvement of an existing and erroneous plan of ditches, it is very important that the comparative levels of different available channels, and of their outlets, shall be ascertained correctly by a levelling instrument.—The eye is an uncertain guide to indicate levels, or degrees of slope in lines. The previous natural or artificial direction of the flow of streams, of course, indicate the then existing and most available descent

for the water. But other and much shorter courses, with greater fall, may in many cases be found, by examining the ground with the aid of the levelling instrument. On my own farm on the Pamunkey bottom, I have found benefit in changing the former courses of both stream and rain-ditches, so as to discharge the water at lower outlets a mile distant from those before used. In other cases, the circuitous courses of streams may be shortened by more than half the length, gaining in the new route double the rate of fall, as well as saving half the former distance. Of course such changes, or better original choices of routes for streams, not only save labor in cleaning out the ditches, which labor is in proportion to the greater length, but still more because of the less rate of fall in the longer route, (supposing the outlet to be the same,) and therefore the greater tendency to fill up of the longer and slower stream. Again: if a stream which is discharged by a circuitous ditch of two miles in length can have a straighter passage to the same outlet, of a mile only, then the rate of fall compared to the distance will be doubled—the same water will be poured off in a ditch of equal size in one-fourth of the former time (or less,) and there will remain comparatively very little danger of rain-floods overflowing the land on the borders of the streams, compared to that danger with the former longer and more level route.

Reference to the geological formation of these high and broad bottom lands will serve to explain many of their peculiar features—and among them, the existence of sundry available descending discharges from streams, in different and even opposite directions. When the mighty flood was pouring down the valleys, and filling them to or over the highest hill-tops or table-land, it may be presumed that the present channel of the river was then the route of the strongest current. Such a river, then, as the Pamunkey, in relation to its wide bordering low grounds, (then in the course of being deposited and raised by the flood,) was precisely as an ordinary small and rapid stream is to its narrow bordering low ground. As is well-known as to the latter, the stream, when flooded, and overflowing the low ground, deposits most earth nearest to the channel of the stream, and the least at the most distant parts. And so of this, and other similar rivers, its low ground is often higher close to the river, than near to the base of the hills, a mile or more from the river. Indeed, it is not uncommon for the lowest depression of the bottom land, and the place for either the flowing or the standing (in ponds,) of the stream-water from the hills, is near to the line along the foot of the high hills.

Further—nearly all the streams which flow through such river bottoms, proceed from narrow valleys or deep gorges in the adjacent hilly or table land, the bottoms of which are of higher level than the river bottom lands over which these streams flow. The running of these streams for the ages since their existence, aided by the much greater action of rain-floods, have served to wash much earth from the hilly land, which has been carried by the stream along its course over the river bottom, depositing first and quickly the sand, and further and more slowly the finer and richer earth. The stream, proceeding from the high land ravine or valley, would thus be continually raising its own bed. In later time, its course would be along the middle and summit of the low ridge formed and continually raised by the deposition from the stream, until turning off

to one side or the other, into the usual lower depression near to and parallel with the hill side, or into some other long depression. Supposing it the former, and that the depression had originally had a very slight fall with the direction of the course of the river, if the stream left its ridge on the lower side, (or agreeing with the descent of the depression,) it would find a gentle descent to the river perhaps some miles before reaching that discharge. On the other hand, if the stream was invited, by a less obstructed way, to turn off towards the other slope of its flat ridge, it would form a long shallow pond, which would rise to the level of the upper end of the depression, now made the bottom of the pond; and the water would find its discharge to the river by the upper and slightly higher end of the depression. The deposit of the stream of fine rich mud would gradually raise the bottom of the pond some feet higher than when the stream first took this direction. At this time suppose artificial drainage to be first begun. The pond may be discharged and its bottom dried, by sinking a central ditch along the then course of the water. This course, and descent, being contrary to that of the river, would be a long route, with very little fall. But if by cutting through the ridge, the water is drawn off in the opposite course, it will certainly have more fall, and probably a much shorter route to its discharge into the river. This supposed case is of frequent occurrence. The circumstances will serve to show why the natural course and direction of a stream may be far from being either the shortest or the best for its discharge; and that the much preferable direction may be opposite to and the reverse of that which had been the natural and apparently the proper route.

It would be tedious to extend such illustrations, or to offer instructions for more of the innumerable variations of circumstances of such lands. It will be deemed by most readers that the general descriptions and the general principles which have been submitted have occupied enough space and time on this branch of the subject.

#### *The excavation and maintaining of open ditches, and their operation.*

Under ordinary circumstances ditching is effected entirely by hand-labor, and with the spade. The gravel shovel, (with a long handle, and blade slightly concave, and rounded at the cutting edge,) is a very useful aid, for throwing out the loose earth left in spading, and still more for removing the miry and almost fluid sludge of old and obstructed ditches. These implements can be used by able men only. And as there are but few such to spare from other necessary work, on most farms, it usually happens that the ditching is carried on by but a few laborers, and with but little superintendence. Hence the work is necessarily slowly, if not also lazily executed; and it is dreaded by many farmers as a costly undertaking, and of course the due performance is usually avoided and much neglected. If other usual farm operations, as clearing wood land, fencing, manuring, &c., were executed in the same manner, by one or two men, separate from the other hands, all those labors would be deemed as costly and as much to be dreaded as ditching is generally considered. If the ground for a new ditch is dry, wholly or principally, every spare hand can be employed; and women, and even children of twelve years old, can have assigned to them such parts of the labor as they can easily perform.



After the work is marked off, and the side lines cut down with the spade, weak hands may dig the ground with grubbing hoes, throw out the loosened and dry earth with shovels, and draw back the bank with broad hoes. And though the implements and the process may not be the most perfect, if for abler hands, the number of laborers will make rapid work.

Still much more rapid work may be done, if on suitable ground, by using the plough as the implement to cut and loosen the earth, and hand-labor only to dress and finish the cutting, and to throw out the loosened earth. The mode of using the plough for this purpose, and its advantages, will be more fully set forth presently.

In most situations ditching must be done by spade-work only. And to lessen the first labor, the width of the ditch is always less, and the "splay" or slope of the sides more steep than is proper. And this error of size and shape is generally justifiable at first, as new ditches are usually but experimental, and half that are dug are subsequently substituted by others, and are filled up. In such event, the too contracted width of the ditch will render its filling less laborious. If the location of a ditch is found to be good, its width and the slope of the sides can be afterwards increased.

No ditch for conveying a permanent stream should be less than two feet deep. It would be better for drainage if a depth of three feet could be preserved. It seems as if many persons suppose that provided a ditch conveys all the water of the stream coming from above, its height within the ditch, compared to the surface of the land, is of little moment. It is certain, and also evident, that the land adjacent to a ditch cannot possibly be drained by it quite so deep as the height of the water in the ditch. Further—if that height be, for example, but one foot below the surface of the adjoining ground, and the soil is of pervious and absorbent texture, not only is standing water kept permanently as near to the surface, but, still worse, by capillary attraction, the upper foot of earth draws from below a still greater excess of water. To drain land properly, all streams, no matter how feeble, must not only be confined to ditches, but the level of the water kept much below the surface of the soil.

Having determined the necessary depth of a stream-ditch, and also that it is to be permanent, the width of the top should be in proportion. A width at top of double the depth is little enough. As to the bottom of the ditch, the narrower it is, for a weak stream, the better. The flowing water ought always to cover the bottom. If so wide as to permit the stream to leave parts bare, these parts will soon be covered by growing plants, forming obstructions, and helping to choke the passage.

Every open ditch, whether carrying a permanent stream, or temporary rain-floods only, ought to receive the surplus water from both its sides, and

thus drain the surface along its whole length. Yet obvious as is this truth, it is generally disregarded in practice. In the first digging of a ditch, a continuous bank is generally made on one side, which shuts out the access of all surface-water from that side, except by filtration through the earth. In the many subsequent scourings of the ditch, it is more than probable that the laborers, to avoid higher throwing, will put the cleanings on the other side. Thus, in the end, continuous banks are made on both sides of many ditches, and which serve to convert the structure to a double dam, which confines the surplus water on the surface, and prevents its getting into the ditch. And even if ignorance and neglect be not so gross as to go to this extreme, still as bad effects are produced by the ordinary ploughing for every crop turning the furrows towards the ditch, and so raising its margins. I have seen ditches which, in some parts, were thus made four feet deep, if measured from the bottom to the height of the banks or margins on both sides, and which were of but little service for drainage of the adjoining surface. Yet by ploughing off and removing the banks of these ditches, they have been so lowered and sloped that the ploughing teams now easily cross them—they oppose very little obstruction to tillage, and cause but little loss of product—and withal, are deeper and drain far better than before. Their former and present shapes may be seen in the profiles, or cross-sections, figured below, and the different operations as to drainage, or the reverse, may be readily inferred. The dotted lines represent the shape of the old ditch and its margins, and the continuous black line, the new. From *a* to *b* is the level of the original surface of the ground. The direction of the beds, and the ploughing, cross the ditch nearly at right angles. It is but a rain-ditch; and though now deeper, is usually dry, because having sufficient discharge for its water. Formerly, for want of graduation, and sufficient fall at the outlet, the bottom was generally a pool of stagnant water, and always wet and miry.

By ploughing outward from the central line of any long sloping depression in a field, for a few years of tillage, where a rain-ditch is needed, a wide ploughed open drain is thereby made, along the closing furrow, which opposes no serious obstacle to ploughing or even carting across, and which however is much better for drainage than an impassable two-feet ditch, cut, as usual, with the spade. Where level or flush ploughing is practised, rain-ditches and permanent grips ought always to be made and kept with the plough, in this manner. This would add but little to the labor of the other-wise necessary ploughing. In bedded land, the same object would be more troublesome to reach; but not near so much as the usual and less effective ditches.

Though as yet, my operations in lowering the banks of old ditches, extensive as they have been,



Fig. 1

have but in few cases fully reached the proper shape as shown in the above profile, I am so well convinced of the advantages, that it is designed to so lower and slope the margins of all properly located and permanent open ditches. The great labor of removing so much earth will be well compensated. The water of an ordinary narrow and steep-sided stream-ditch, when swollen by heavy rains, is obstructed by the weeds growing within and on the sides of the ditch, and is thereby raised higher. The sides of the ditch are washed and abraded by the current, the earth falls in, and the rich soil is either lost by being swept away, or remains to choke the passage. The irregularity of the loss by washing or caving sides, makes the current irregular, and so increases its tendency to be choked by the abraded soil. Freezing and thawing of the sides also serve to throw more earth from the ditch sides into the stream.

Now if instead of these steep, foul and irregular sides of ordinary ditches, they were sloped off from 10 to 15 feet on each side (as seen in the figure above), no earth could fall in from the sides. If loosened by freezing and thawing, it would still retain its position. The rain-floods would rise and spread over the broad sloping margins. But they could rarely wash any of the earth away; and indeed would raise it by depositing sand as well as mud suspended in the overflowing current. This effect is seen on every rapid river. The bluffs, or high and steep banks are undermined and washed away, while the low borders, flooded by every fresh, are always receiving accessions of earth from the overflowing waters. In a ditch so shaped, cultivation could extend almost to the water's edge, so as to leave no ground for shrubs or even weeds to grow. If the bottom of the ditch is sandy—or if the stream brings sand—the bottom would be firm, and teams could cross, or walk in the stream, without any difficulty. Such a ditch would require but little cleaning out; and when necessary, the digging for cleaning, as well as the digging for the first construction, might be done mostly with the plough, and under the flowing stream.

The digging for lowering and sloping the sides of existing stream-ditches, or their original construction, may be far more cheaply executed by the plough, if the state of the ground permits its use. The running of the plough should be commenced at 5 to 10 yards on one side of the ditch, or its designed place, (if a new one,) and proceed in a direction precisely parallel to the ditch, and turning the furrow-slice outward. When reaching the end of the then designed cutting, or as far as is most convenient for one job, the plough should cross the ditch, or its designed line, and turn another outside furrow at the same distance from and parallel to the ditch. Thus a "land" is laid off, and then proceeded with as in ordinary flush ploughing, and as directed above for making rain-ditches in depressions, by the plough. When the plough, cutting as deeply as convenient, has finished its "land" as close as possible to the sides of the central old ditch—or in the central line of the designed new ditch—the whole ploughed layer, to the depth of the cutting, say 6 inches, will have been moved (by the turning of the furrow-slices,) to the distance of the width of the furrow, or say 12 inches, outward from the ditch. If the line of the ditch is along the middle of a long narrow depression, bordered by the sloping sides of higher ground, (as is often the case in low lands of the third class before de-

scribed) then the like ploughing may be repeated either before or after the hand-labor of throwing back the ploughed earth. In such case the raising the moved earth towards and upon the lower sides of the rising margins, will not prevent the leaving a proper descent for surface-water from the field to the ditch. The plough then (running repeatedly upon the same ground, and even if turning only in before cut earth,) will be the best and principal operating implement. Though moving the earth only as much as the width of the furrow, (and even less, where the earth is loose from recent cutting by the plough,) still this moving is so continually going on, and so rapidly, that more is done than by any other implements. Still, hands with shovels, and even broad hoes, may forward the removal, and help the after operation of the plough. When as much depth has been gained in the line of the ditch as can be done by repeated ploughings, then its designed size should be marked by line and measure, and the required shaping and also sufficient deepening given by the spade.

But if, instead of the ditch being in a depression so narrow that the earth may be moved to the slopes, and far enough, by the plough and shovels, the site is on a broad bottom, and the margins not depressed, then the ploughed earth must be moved to greater distance by scrapers, or tilting carts. Some adjacent low spot may thus be advantageously raised; or some poorer land manured by the richer earth taken from the ditch and its borders. If this removal to a distance did not take place, the moved earth, even if thrown 10 yards out from its original position, and however thinly spread, would still form a broad low dam, higher than the adjacent ground, and serving to shut out the surface-water from the newly made slope, and the ditch. Even if this increased elevation were but 3 inches, it would continue to be a permanent and serious inconvenience, much more costly than the carting away of the earth. In such case, if the beds and ploughing were parallel with the ditch, (as is preferable,) then the raised ground outside of the sloped margins, would require to be cut across by many and deep grips, to give the surface-water access to the ditch. If the beds crossed the ditch, then each water-furrow, where crossing the raised ground, would be too high to lead the surplus rain-water to the close adjacent ditch; and they would there require additional deepening by the spade, and the renewal after every tillage labor. This is the bad condition of most of my own ditches, after all the labor of levelling and throwing back the banks. The further removal of the earth by carting is still needed; and it would have been much cheaper if done at first.

This is but one of many cases in which my present opinions, and knowledge of advantages, though truly the results of experience, are not derived from the experience of proper courses and of consequent success—but of the opposite errors, or neglect or unavoidable postponement of effective labors. But the right way is not the less manifest because taught through the losses incurred by departure from it. It may not be superfluous to accompany this personal reference with some further explanation. Though almost every opinion advanced in this essay is the result of practical labors or of personal experience or observation, a reader would be greatly deceived if left to suppose that the writer had properly and successfully executed every process herein directed. More or less of all

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has been done and with benefit; but very little compared to what remains to be done, and for which there has not yet been either sufficient time or force. Fully convinced as I am of the propriety of many things for the greater perfection of my drainage operations—of the loss incurred by their omission or delay, and the profit which would be obtained by the performance—still more time and means will be required than in the remainder of my life can be employed. Great as have been my labors in draining, and generally also successful, since my present and but recent occupancy in a new locality, and under untried circumstances and many difficulties, still the culture and growth of every successive crop exhibit evidences that much draining still is wanting, and that serious inconveniences and losses are still suffered every year by the omission or delay of operations which are known to be proper and requisite.

On a preceding page, I described as the simplest and cheapest mode of surface draining, where applicable, the operations by merely ploughing the land into beds and furrows. This is the ordinary mode of cultivating crops in a large portion of lower Virginia; and is pursued not only on level land, where beneficial for drainage, but also where the surface is undulating, or even hilly, and where beds and furrows are injurious as well as useless. For the most general crop, corn, beds from less than 5 to at most 5½ feet width are used; and two of these thrown together for wheat, are the widest known in ordinary practice. But it has long been my opinion, and more recently my experience also, (as soon as I had level land, fit for bedding,) that beds of not less than 25 feet are better than the narrowest for drainage, as well as for convenience in tillage. The wide beds can be raised higher, (if desired for low and flat land,) by successive "gatherings" by the plough, and of course making deeper water-furrows. Indeed, after the ploughings for two crops, every water-furrow is a good open ditch, while the general surface of the field appears more level than if in narrow beds, of which the water-furrows could not be so deep, nor the crowns of the beds so high, each by six inches or more. The advantages of these wide beds, in other respects than in connexion with drainage, are important; but would be out of place if treated here at greater length.\* [To be continued.]

\*The superior advantages of very wide beds, then untried in practice, (except on a small extent of narrow low-grounds, of class 1,) were discussed at length in some remarks on the lands and culture of Gloucester county, published in 1838. (*Farmers' Register*, vol. vi. p. 185.) My opinions then were mostly in advance of experience, as the very hilly lands I then cultivated furnished no proper subject for tillage in beds, either wide or narrow.

THE "VALLEY FARMER."—The editor of this paper states in the June number that the subscription for the last year did not cover the cost of its publication. This fact reflects sadly upon the farmers of the southwest, as this journal is most ably conducted, and should meet with a large and generous support. Interest, as well as gratitude, both concur to gather around it a liberal patronage, and we trust that the manly spirit which the editor's address breathes, and the ability so manifest on every page of his excellent periodical, will awaken that pride of position which should animate the agricultural mind to a just estimate of the true value of his paper, which, if properly sustained, cannot fail to elevate the character and promote the welfare of every husbandman within the sphere of its circulation.

## Report of Dr. James Higgins, STATE AGRICULTURAL CHEMIST.

[CONTINUED FROM PAGE 63.]

In obedience to the law, I commenced the discharge of my duties in the first gubernatorial district, comprising eight counties, viz: Cecil, Kent, Queen Ann's, Caroline, Talbot, Dorchester, Somerset, and Worcester, which constitute the

### EASTERN SHORE OF MARYLAND.

It is bounded on the north by the far famed Mason and Dixon's line, (which separates it from Pennsylvania, as it does the slave from the non-slaveholding part of our Union;) on the south by the eastern shore of Virginia; on the east by the Atlantic Ocean and Mason and Dixon's line, separating it from the State of Delaware; and on the west by the Chesapeake Bay. The mildness and salubrity of its climate, the natural fertility of its virgin soils, the numerous and various sources for improvement for those that have been worn out by improvident cultivation; the unequalled advantages of its geographical position; the high moral and social tone of its population;—all tend to make it an object of interest, as well to those who wish to cultivate the earth for a subsistence, as those who tired of a city life, or the drudgery of professional labor, desire to enjoy dignity with leisure in a retirement from noise and bustle, in the bosom of the country, where the pleasure of sense is combined with the higher and purer social enjoyments, which all sigh for, and few obtain. A plain description of this section of our State, derived from personal observation during a residence there of nearly eighteen months, being the testimony of what I have seen, and of what I know, from careful observation, will fully confirm what I have said.

First, as to the advantages of its geographical position. Any one who will look at a large map of the United States, will not fail to perceive, that in this respect it is unequalled by any other part of our Union.

On one side resting on the ocean, on the other reposing on the Chesapeake Bay,—the largest and most beautiful in the world,—which affords at all seasons of the year a safe, cheap and speedy conveyance to market. Placed within a circle, as it were, surrounded by the great cities of New York, Philadelphia and Baltimore, all ready and willing consumers of its varied agricultural productions: the ingenuity of man could not improve its locality in this respect. All that railroads and canals, made with enormous labor and expense, can, in the opinions of the most sanguine, effect for other portions of the Union, is here accomplished by the hand of nature, in a manner blending the highest beauty with the greatest utility.

Almost every man has fine bold water, either at his door or only a few miles distant from it, navigable for the largest schooners and steamboats, which, with but little time and expense, can convey his productions to market, and bring in return whatever may be required for convenience, for comfort, for luxury. These waters are, moreover, abundantly supplied with the finest fish, terrapins, crabs and oysters, and some of them with wild fowl of flavor and excellence, unequalled elsewhere.

The character of its soil and the means at hand for improvement, are no less worthy of admiration. The variety of its soils affords an opportunity for the

cultivation of every kind of grain, fruit or grass which the climate of this latitude will admit of. Many of its soils are peculiarly adapted to the growth of wheat; others raise the finest crops of corn: its fruits, particularly peaches, are equal to the best in the country, and nothing is wanting but careful cultivation to make it the vineyard of the Union; and its capacity for growing grass will render it a fine grazing country. It has an abundance of the finest timber, particularly white oak, pine and cypress. In many places there are extensive deposits of bog iron ore, easily obtained, and some of the largest of chrome ore in the world. One great and valuable feature of this country, is the abundance and variety of its resources for agricultural improvement. On many of the rivers there are large deposits of Indian shell banks, capable of affording many millions of bushels of the purest lime. It has numerous deposits of very rich shell and green sand marl. In some of the counties the green sand marl contains a large per centage of gypsum. In many large districts of country shell marls containing from forty to seventy-six per cent of air slaked lime, can be obtained with the greatest facility, being sometimes within a few feet of the surface, sometimes *cropping out* upon it.

The shores of the bay, and its numerous creeks and rivers afford large quantities of sea-weed, a most excellent and valuable manure. In other counties the marsh mud, easily obtained, is exceedingly rich in those constituents most generally needed by worn out soils. To those of its soils which require magnesia, the Chesapeake and Delaware canal, and Susquehanna river, afford every facility for a cheap supply. The whole country is well wooded, timbered and watered.

I find it to be an opinion generally held, that this is a very unhealthy section of our State. My opportunity for observation has been better, perhaps, than that of any other individual, whilst my professional studies, as they enable me to observe accurately, should give my opinions some consideration. So far as my knowledge extends, no part of our country is more healthy than this. There is no better mode of judging of the health of a country than by the physical appearance of its inhabitants. All writers on the science of health (Hygiene,) agree on this general rule, that the physical developments of the inhabitants of a country is the best criterion to judge of the health of that country. The reasons of the truthfulness of this index are perfectly in accordance with sound physiology. Muscular development cannot take place, except when all the organs of nutrition are capable of performing their functions in a proper manner. This they cannot do, if exposed to the influences of causes which produce disease; if they do it not, then the appetite will not take food,—or if the appetite does, it will not be converted into aliment. Hence, instead of the full development of the osseous system, (the bones,) and muscular system, they will be sparingly nourished, and attain but little size. Travellers, and indeed all persons, invariably speak of the diminutive size of the inhabitants of unhealthy districts, and of the puny stature of the denizens of closely built towns, in comparison with the large size of the inhabitants of mountainous countries. Experience and the laws of physiology, then, alike declare, that the best test of the health of a country is the physical development of its inhabitants.

I have visited many sections of our country, and in no part of it have I seen the mass of population

looking more healthy, or having more of all the signs of health manifested in their appearance, than on the Eastern Shore of Maryland. I have seen some of the largest gatherings of men that have ever taken place in our Union, and with any of them, the assemblages of farmers that I have met in my professional tour will favorably compare. Going through every part of each of the counties during all seasons of the year, I have had an opportunity of knowing whatever amount of sickness might exist, and I have in the same extent of population, found as much in those sections of our Union accounted the most healthy, as I have found on the Eastern shore. The only disease at all prevalent are intermittent and remittent fevers. These only prevail during a portion of the year, and seem to be the best preventives against the numerous and fatal class of diseases of the chest which are so fearfully present in other parts of the country. Consumption, so prevalent in other parts, is here almost unknown. My own observation and the experience of its resident physicians, fully sustain this assertion. The people, then, of this part of our State suffer for a brief period of the year under a class of maladies, which, with proper treatment, are speedily and easily cured, and have almost a total exemption from a numerous class of always dangerous, and frequently incurable diseases. It may be asked here, why then has this section of our State a reputation for unhealthiness, which it does not deserve? The only reason which I can give is this: in all of the counties on the shore, there is a custom of having what are called "public days," in the county town, and frequently in other parts of the country. These are days set apart by common consent for the transaction of public and private business, and where very many meet who have no particular business to transact. In this way, several persons from each neighborhood always meet, and whatever cases of sickness occur in any particular section, are known and told with a sympathy all over the county. So every case of sickness or death is known, and from the particular acquaintance and friendship engendered by frequent meetings of the people, is felt as a calamity to the whole community, although the number of cases do not exceed those in the healthiest parts of the Union. More is known of the cases which do occur, but no more *actually* take place here, than in the most healthy parts of the country.

As this country progresses in its rapid march of agricultural improvement, the better and more perfect cultivation of its soils will remove many of the causes of sickness which now exist. This should and will be additional reason for inducing, by all means, the most thorough cultivation and improvement of its soils.

I have dwelt somewhat at length on this subject, to correct the erroneous impressions which exist, and to show to those in want of certain and profitable employment, and of cheap and easily improved lands, that they need not feel any apprehension on the score of health. Emigrants will find here land cheaper, taking everything into consideration, than they can find in the West, and equally healthy; and if they are taken sick, or meet with misfortunes of any kind, instead of being subject to the privations of a newly settled country, they will experience every aid and assistance from a kind, generous, and hospitable people.

The son of Erin will be received in a manner that will remind him of the warmth of his native land; the patient industry of the German will here meet



with a speedy reward; and the Maygar will here find a home amidst a people capable of appreciating his noble patriotism and chivalric love of liberty.

The surface of the country is generally level. The upper part of Cecil county is very hilly; thence the face of the country gradually changes to a gently rolling surface in Kent and Queen Ann's, until it becomes very level and flat in the other counties.

Its scenery, though deprived of the grandeur of mountains, is more than compensated in beauty by its unrivalled water prospects. The rivers penetrate far up the country, winding gracefully from farm to farm, which seem to seek the embrace of the clear blue waters, in whose bosom they lie. The fresh streams which are bordered by large marshes, in some seasons of the year present scenes of the most ravishing beauty.

The waters of these streams are of a dark amber color, from the organic matter of the marshes which border on them, and are covered with the water-lily, a very large and most beautiful white flower; and the marshes on the sides next the river are filled with wild roses, whilst that part next to the highlands, are one unbroken forest of magnolia. As far as the eye can reach, it rests on one unbroken series of beautiful flowers, more beautiful from the dark sluggish waters which are in contrast with them. At night, the lilies on the water are covered with fire-flies, giving the scene an appearance of unequalled beauty and brilliancy. The whole forms a scene which art, with all its ability, can but faintly imitate, and which is without parallel, even in the "gorgeous East." Its population has long been distinguished for the highest degree of polished hospitality. Residing in the central part of the Union, immediately on Mason and Dixon's line, they have all of the virtues, with none of the vices, which belong to the two great sections of our Union. They possess the thrift, industry, and economy of the North, without its parsimony,—the generosity and chivalry of the South, with none of its extravagance and recklessness. Living where the land and the waters meet, their minds have all the firmness of the former, their hearts all the freedom of the latter.

Though to some, the above description may seem highly colored, all who have had the same opportunities for knowledge as I have had, will bear testimony to its correctness.

I do not conceive it necessary to go into a minute description of the topography of the several counties. The residents know it already, and to others it would possess no interest, and be of no benefit. I shall only speak of the particular deficiencies of each soil, show from what sources these deficiencies are to be supplied, and give the compositions of some of the different marls. I shall only publish a few of the many analyses of soils made, as they would possess no particular interest beyond their immediate locality, and there I have already given the requisite information. All of the analyses made by me would occupy a large space, and the great majority of farmers would derive but little benefit from reading them. I conceive my duty rather to lie in the application of the aids of science to agriculture, than in teaching that science; and to do the latter in a report of this kind, would be foreign to its object. As the sick man needs not to know the exact mode in which the medicines administered for his relief act, but is satisfied with his recovery, so for those seeking to improve their lands, it is only necessary to know what will most certainly and cheaply accomplish their ob-

jects. This I shall show without going into elaborate reasoning as to the theory of the action of their manures. The law seemed to indicate, that instruction on this point was to be given during my sojourn in the different counties by means of lectures, by conversations, and, when required, by means of written communications. This is deemed, (and as far as my experience goes,) with great wisdom, the means best adapted to diffuse scientific agricultural information in the community. Notice was given in all the public papers of my presence in the respective counties, and of the time and place of delivering public lectures. Free opportunity was thus offered to all, of reaping whatever benefits could be derived from this office.

Having spoken of the components of soils in general, and of manures, I now come to describe several general varieties which exist in this section of the State where my duties have been performed. Although different parts of the same field present differences, yet on another, and adjacent field, the same kind of soils will be found. The varieties of soil, which I shall particularly describe, are those which are met with in greater or less abundance, in all of the counties on the Eastern Shore.

#### WHITE OAK OR PIPE CLAY SOIL,

Forming a large portion of the soil of the Eastern Shore, must be of great interest, whether viewed as to its barrenness, when unimproved, or its fertility, when correctly manured. I have examined its properties, determined its constituents, and studied the best means of remedying the defects of each, with the most careful attention. To the knowledge of the first two, obtained by my own investigations, I am able to add, for the correction of the last, a knowledge derived from the accumulated experience of many of the best farmers on the Shore. This variety of soil is readily distinguished from all others by its white color, firm compact texture, its level surface, its great retentiveness of moisture, by its softness and plasticity when wet, and by its firm and unyielding nature when dry. It is almost always in its original state, covered with white oak timber, from which it derives its name. Sometimes, however, pine grows abundantly on it, mixed with the white oak. The water which runs off from its surface is of a dirty white color, and even when it collects in pools, takes a long time to become clear; in other words, a long time must elapse before all of the earthy matter, from its extreme fineness, subsides to the bottom. The sub-soil is most usually a true white clay, (silicate of alumina and protoxide of iron,) unless on the points of land running into the rivers and ocean, where red clay predominates. Occasionally, we find the sub-soil of a "mottled, marbled" character, being a mixture of the red and white clay in various proportions. Its chemical constituents are no less marked than its physical appearance. It is distinguished by the large proportion of sand, by the small proportion of iron and of clay, by the presence of magnesia in sufficient quantities, by a great deficiency of lime, which is constant, and by a tolerable supply of the alkalies, phosphates and sulphates. The sand in these soils is always in a finely comminuted state, feeling but slightly gritty under the fingers, and receiving minute impressions when placed in contact with any uneven surface. It is from the extreme fineness of the sand, that this soil derives its compact texture and its power of retaining moisture. It is this which makes up for what would otherwise be a deficiency in the clay and iron. These

two latter substances are particularly important in soils from their power of absorbing and retaining moisture. From the atmosphere they also absorb ammonia, a powerful fertilizing agent, and retain it with great force, forming combinations, "true salts," with it, until the plant requires it for support. In a soil deficient in clay and iron, then, and whose sand is coarse, you will have to supply artificially, some manure containing this latter indispensable substance, or a good crop can never be obtained. There are examples of this kind in the loose, light, sandy soils in some parts of all of the counties. These soils owe their barrenness alike to their texture and to their composition.

In the white oak soils, the fine sand is a substitute for iron and clay, absorbing, with great power, moisture, and whatever other fertilizing matter may be in the atmosphere, and retaining it until the wants of the plant require its use. The sand thus performs a vicarious action to iron and clay; it is a substitute for them in giving compactness to the soil; it is a substitute for them in absorbing moisture, and the food which plants obtain from the atmosphere.

The power of charcoal to absorb various gases, is well known, a power derived exclusively from its mechanical texture, as shown by its great number of fine pores; and when we consider the fine state of division in which the sand exists in these soils, we readily see how a mass of it must present a very large surface for absorption and how an almost infinite number of small spaces must exist between the grains of sand, giving it in a great degree the same properties as charcoal; for although this soil appears to form a solid mass, yet no grain of it is in perfect contact with any other grain. This is most satisfactorily demonstrated by placing a small lump of it under the field of a microscope, when the interstices, the spaces between each grain, are distinctly visible. Another advantage which this land possesses is, that it more readily yields the mineral agents which it contains, to growing plants, all bodies (other things being equal,) being soluble in proportion to the fineness of their division. This is always acted on by those who wish to dissolve any substance of difficult solubility, by pulverizing it in a mortar. Now, in a soil, every grain of sand contains something of use to the plant, which can be more readily dissolved from fine, than from coarse particles. These soils are uniformly deficient in lime, but have enough of magnesia; they have potash and soda, as well as sulphates and phosphates, in fair proportion.

How does an acquaintance with their texture and composition teach us to improve them? What are the indications, and how are they fulfilled?

First,—These soils are level and retentive of moisture. They should then be drained *rhonocally* with surface drains. No water should ever be allowed to rest on them. The fields should be ditched at least on two sides with a wide deep ditch, into which a number of small surface drains should run, and one or two large drains through a field are no substitute for a large number of smaller drains. These latter are more effectual and more easily made. A plough run once or twice in the same furrow, aided by the hoe, will, in most cases, make a very effectual drain. The manure from the bottom of these ditches will, in a few years, pay for them, even if they had no other use.

These soils are compact, and, therefore, do not require a great depth of soil in order to give firmness and stability to the roots of plants growing on them. They, also, very effectively retain moisture,

thus affording it to crops in a dry season; when overlaying a white sub-soil, they can gain nothing of use from it, for these sub-soils contain almost nothing that is useful to vegetation, and some things in a condition that are injurious. How, then, should they be cultivated? Notwithstanding, it is so fashionable to advocate deep ploughing; notwithstanding it is always insisted on by agricultural writers, speakers, and essayists, yet I must advise all to beware of it, on these lands, unless they have a red clay sub-soil. The only rational rules for ploughing are short and plain. They are, to turn up a sufficient depth of soil to give a firm support to the plant, enough to retain moisture for its use, and never to go deeper, when those ends are obtained, unless the sub-soil be better than the surface soil. If it be worse, you injure, and cannot improve by deep ploughing.

If the sub-soil be better, then, and then only, can you gain by deep ploughing. Reason and common sense alike tell us, that if you join a worse with a better soil, the compound will be inferior to that better soil. If, on the other hand, the sub-soil is better than that which overlays it, then should it be turned up with the plow, because the sum of the two will be better than the surface soil.

Such being the case, you should plough shallow in these white oak soils, and never turn up the white clay upon which they rest. The particular depth of ploughing, will vary slightly in different soils of this class, and I have never seen any that required over five inches; most frequently three or four inches are sufficient. This depth is sufficient to support the roots of the plants, sufficient to retain enough of moisture, and there is inferior soil underneath, which would deteriorate the quality of the surface soils.

Where there exists a sub-soil of mottled or marbled clay, the same rules are to be observed as regards the depth of tillage. Upon the red or yellow clay sub-soils, the practice should be different, as these may with advantage be turned up, never more, however, than one inch for each rotation, which may be repeated until the depth of tillage reaches to six or eight inches. These rules are founded on the nature of the sub-soil, and its influence on vegetation.

The iron in the red and yellow clays is in the state of per oxide, that is, it is in its highest degree of rust, and can receive no more oxygen. Iron, in this condition, absorbs ammonia, (a very fertilizing constituent of the atmosphere,) and retains it until required by the growing plant. But the advantage does not stop here. The color of soils has an important influence on their productiveness. Those which are dark colored, absorb and retain heat better than those of a lighter hue. Seed, in the former, sprout quicker, and grow more rapidly than in the latter. So by mixing a red or yellow clay with these white soils, you will cause the crop to take an earlier start, to grow more rapidly, and arrive at maturity sooner, than if a contrary practice had been adopted. These clays, too, uniformly contain some lime, in which the surface soils are deficient.

We come now to speak of the best means of improving the soils under consideration, by manure, that is, by the addition of those substances in which they are deficient: deficiency or absence being always the test of a manure. However valuable anything may be in itself, it is no manure when applied where it already exists in proper form, and in suffi-

cient quantities. From what has been said of the composition of these soils, the rationale of their improvement is plain, cheap and certain. They are only deficient in lime: Then it should be applied to them in the purest form,—oyster shell lime is the lime for these soils, because, in reference to them, it contains less impurities than any other kind of lime. If Wrightsville, New York, or Schuylkill lime, be applied, much less of manure, for the same amount of money and labor is given to the soil, than if oyster shell lime be used. Each of these limes contain a large per centage of magnesia, and more sand, clay, and iron, than that from oyster shells. As these soils contain enough of magnesia, all the magnesia applied to them is so much lost, in money and labor, to say nothing of the loss of a crop which a pure lime would have produced.

It matters not in what form the lime be applied, as it is a mere question of cost, whether pure oyster shell lime, shell marl, or the mould from Indian shell banks be used; all these act by supplying lime, the prime deficiency of the soil; they will act and bring it to a high degree of fertility, producing abundant crops of every kind, and the finest, heaviest crops of wheat; for these soils, from their texture, is peculiarly adapted to this grain.

The manner of applying lime to these lands now requires some notice. If it be applied to the surface a long time before the crop is to be planted, the rain, instead carrying the particles down into the soil, will carry them off from it, and in this way a large part will be lost. In loose, porous soils, this surface application will answer very well, but hard compact soils should be first ploughed up, and then have the lime scattered immediately on the surface. In this way none will be lost.

The quantity of lime to be applied, is the next subject of consideration. Here again we have to consult fertile soils of this class. Science has given them a language, every sound of which is truth.

The most productive have not shown over two hundred bushels of slaked lime to the acre, to the depth of twelve inches. There is no need then, of ever giving more than this quantity. Six or seven tenths of one per cent is always enough. Up to this point, the larger the quantity the better will be the crops. All who have this variety of soil should apply lime to them. If it be impossible to apply an hundred bushels, apply fifty; if not fifty, then twenty-five; if not twenty-five, then ten bushels; apply some, and do it at once, make a beginning, however small, and its good results will soon persuade all who make the effort, to surmount whatever trifling difficulties may intervene, and lead them to apply the necessary quantity.

Besides lime, a slight dressing of compost manure, made from the scrapings of the woods, will greatly aid in the improvement of these lands. It will materially quicken the action of the lime. I need not give the reasons, the fact is certain and quite sufficient for our present purpose.

There are millions of acres of this land, now not worth in market more than from five to eight dollars, which, by the application of as much money in the proper manure, will pay for themselves and the manure, by the very first, or at most the second crop. Lands, precisely similar to them, have produced from fifteen to twenty bushels of wheat to the acre, after proper draining and liming, which before would not produce more than four or five, frequently not more than two or three. I know some examples of this kind, upon which all may de-

pend, which prove these two prime facts:—1st. That these lands, when improved, are the most productive and valuable in our State, taking every thing into consideration;—2nd. That lime is the cheapest agency to effect this improvement. I need not say, that in their unimproved condition, they are the least profitable of all other varieties of soil. If there be any one kind of manure which I can recommend for any particular soil with more confidence than I can any other, it is

#### OYSTER SHELL LIME TO WHITE OAK SOILS.

If that cannot be obtained, then the Baltimore limes should be used. I have never known a single instance of failure from the use of oyster shell lime on these soils, where proper cultivation was also followed. The most productive lands in Talbot are of this kind, and made so by the use of this substance, and manure from the common resources of the farm. Land there, which twenty years ago was considered dear at ten, will now readily bring fifty and sixty dollars. The same degree of improvement has occurred in many other of the counties of this shore, but not so generally as in Talbot. I have now given the nature of the composition, and best means of improving, this variety of soil; shown what indications Analytical Chemistry declares were to be fulfilled to render them fertile; and I have shown that where these indications have been carried out, they have never failed to produce the desired result; that art and science, theory and practice all pointed to the system of cultivation, and the same kind of manures. It remains then for the owners of this land to act their part, and their labor should be less irksome from the certainty of its success.

The following are a few of the many analyses made of these soils:—

|  |       |
|--|-------|
| Specimen from Farley creek, Kent county, |       |
| Vegetable matter,                        | 5.60  |
| Silica, (sand),                          | 89.80 |
| Iron and pure clay,                      | 3.40  |
| Iron and alumina, as phosphates,         | .14   |
| Lime, as air slaked lime,                | .41   |
| Magnesia,                                | .35   |
| Potash and soda,                         | .12   |
| Sulphuric acid,                          | .001  |
| Chlorine,                                | .001  |

This soil produces from twenty to thirty bushels of wheat, and from six to ten barrels of corn to the acre, at present. It has been manured with two hundred bushels of Schuylkill lime to the acre. This soil, in its original condition, contained an abundance of Magnesia. This was not the best lime for it. A specimen taken from an adjoining field, gave two tenths of one per cent of magnesia. Before the application of the lime, the owner of this land informed me, that it would not have produced three bushels of wheat to the acre.

#### No. 2.

Specimen from the upper district of Queen Ann's county, taken to the depth of five inches, was composed as follows, of—

|                                 |       |
|---------------------------------|-------|
| Vegetable matter,               | 3.50  |
| Silica,                         | 91.10 |
| Alumina, (clay),                | 2.50  |
| Iron as per oxide,              | 2.00  |
| Iron and alumina as phosphates, | .05   |
| Lime as carbonate,              | .04   |
| Magnesia as carbonate,          | .70   |
| Potash and soda,                | .03   |
| Sulphuric acid,                 | .001  |
| Chlorine,                       | .001  |

This soil had never been limed, it originally contained only twelve bushels of lime to the depth of 12 inches. It has a large abundance of magnesia, and is very poor. The manure is of course lime, and the common resources of the farm.

## No. 3.

Specimen of unimproved white oak land from Kent Island, in Queen Anne's county. Specimen taken to the depth of five inches, and thoroughly dried, gave as follows, of—

|                                  |       |
|----------------------------------|-------|
| Vegetable matter,                | 3.78  |
| Silica or Sand,                  | 92.30 |
| Alumina,                         | 2.00  |
| Iron as per oxide                | 1.25  |
| Iron and alumina, or phosphates, | .08   |
| Lime as carbonate,               | .08   |
| Magnesia,                        | .29   |
| Potash and soda,                 | .16   |

Sulphuric acid and Chlorine, not estimated quantitatively, but evidently enough.

This land does not produce five bushels of wheat to the acre, though it has all of the constituents of a fertile soil except lime, in as good proportions as the other soils which produce twenty-five bushels of wheat.

## No. 4.

Specimen from near Miles' River, Talbot county, was composed as follows, of—

|                                 |       |
|---------------------------------|-------|
| Organic matter,                 | 5.00  |
| Silica, (sand,)                 | 91.70 |
| Alumina and iron as per oxide,  | 2.99  |
| Iron and alumina as phosphates, | .11   |
| Manganese, (a trace,)           | .32   |
| Lime, as carbonate,             | .18   |
| Magnesia,                       | .07   |
| Potash and soda,                | .07   |

Sulphuric acid and chlorine in sufficient quantities.

This is a very productive soil, made so by the application of marl.

## No. 5.

Specimen from Tuckahoe Neck, Caroline county, was composed of—

|                                 |       |
|---------------------------------|-------|
| Organic matter,                 | 4.60  |
| Silica or sand,                 | 92.10 |
| Alumina and iron as per oxide,  | 2.80  |
| Iron and alumina as phosphates, | .03   |
| Lime as carbonate,              | .17   |
| Magnesia,                       | .10   |
| Potash and soda,                | .04   |
| Sulphuric acid, a trace.        |       |
| Chlorine, not deficient.        |       |

This is rather more productive than most of the unimproved "white oak soils," the quantity of lime in it being above, and the quantity of phosphoric acid, under, the average. Besides oyster shell lime, bone dust or guano, particularly the Patagonian or African, should be used on these soils.

Several examinations of soils on this Neck, show very nearly the same composition as the above.

## No. 6.

Soil from near Cambridge, Dorchester county, Md. Specimen taken to the depth of six inches. This soil had never been improved; it was composed as follows, of—

|   |       |
|---|-------|
| Organic, i. e., vegetable matter,       | 7.20  |
| Silica, i. e., sand,                    | 90.50 |
| Alumina, (clay,) and iron as per oxide, | 1.70  |
| Alumina and iron as phosphates,         | .09   |
| Lime as carbonate,                      | .10   |
| Magnesia,                               | .21   |
| Potash and Soda,                        | 111   |

Sulphuric acid, .008  
Chlorine, .006

This soil was experimented on by J. Wallace, Esq. with the following result, which I cannot do better than give in his own words:—

"I accordingly purchased five hundred bushels of ashes in Baltimore, and had them landed at a cost of 12½ cents per bushel, and applied them upon lot No. 1, of field No. 1, at the rate of one hundred bushels per acre; immediately alongside, I applied one hundred bushels of shell lime at the cost of 3 cents per bushel. The whole was sown in wheat in the fall of 1847, upon an oat stubble. At harvest I measured off and reaped separately, one acre of the ashed land, and one acre of the unimproved land. Upon the ashed land, I had raised seventeen bushels of grain, upon the unimproved only seven and one half, an increase of nine and one half bushels. The product of the limed acre was not measured, but as the eye could observe, there was a slight difference in favor of the ashes, but very little. The difference in the cost of improvement, however, was material; the ashed land cost \$12.50 per acre, and the limed only \$3.00. On the young wheat, in the spring, clover seed was sown upon the whole field, but the plants all died in the summer, except where the lime and ashes had been applied. And I may here add, that in every instance I had failed to raise clover where either lime or ashes had not been applied."

For more particular details, the reader is referred to a letter from Mr. Wallace, in the January number of the American Farmer. It is by far the most valuable practical paper yet published on this subject.

The analyses and experiments place the matter beyond cavil, as to the successful manuring of poor lands of this description. I have examined numerous specimens of this variety of soil in other parts of Dorchester, and Worcester, in Queen Anne's, Kent, and Cecil, and they all have the same general composition, and would be benefited by the same cultivation, the same kind and quantity of manures.

For the American Farmer.

## GUANO—NO. II.

In this number, while I am waiting for the facts of the present crop of wheat, and of other results of Guano, I will express my doubts of the propriety of making large investments of money in this article. While it is admitted on all hands, that agriculture constitutes the real basis of every other interest and calling—the very life-blood of all existence; it is also true, that it is not generally to be considered itself a lucrative calling. As Tracy justly remarks, "agriculture is the first of arts in relation to necessity, but not in regard to riches." Many exceptions in favor of the profitable pursuit of this calling may be found, but not so numerous as to influence the masses of men in its favor, so much as to induce them to abandon other callings more propitious to their hopes. An admirable balance exists in the great manufactory, so to speak, of the world—happy division of labor, production and consumption. I think it will generally be found, that our love of money, as individuals and communities, may be quite safely measured by what may be called the agricultural rule. Cities compared with countries, show conclusively on the part of the first, a stronger desire for rapid gain than is manifested by the latter. Hence it is, that



they congregate together directly in order to turn with greater facility, more frequently and more profitably the penny; whether this penny shall consist of manual skill, money capital, or any other thing capable of exchange and profit. There are exceptions of course to this rule. We sometimes find men of wealth and other drones in cities, taking their ease and pleasure, who do society but little good in any way. But since the introduction of guano into our country, farmers are becoming quite strongly impressed with the idea that agriculture need no longer drag on at her former dull rate; sometimes knocking, beggar like, at this door and then at that. Sometimes she cries for a chemical doctor to come and open her eyes that she may know sand and clay, and other things, when she sees them; then anon, for an agricultural school, in which shall be taught the cure of all her evils, maladies, misfortunes and poverty. But sighs and groans and petitions and all tears may be soon expected to be wiped away, if only the half be true, which is told of the wonders of guano! Having my doubts and fears of these wonderful results, which will be more definitely considered hereafter, I wish for the present to look at the subject in the light of the capital involved. I cannot but think that the public mind must be under the influence of some delusion on this point; and I know of no better way of ascertaining the truth prospectively, than by a fairly made comparative view of things. The final—the only important issue on the subject of manures, must be, *transient*, versus *permanent*. If this issue should fall on the side of the first, guano must prevail over all, both permanent and transient.

I feel confident that the agriculture of the U. S. may be rendered a much more profitable calling to those who pursue it, than it is now, especially in the older states. And for the accomplishment of this end, capital, not only in labor, but in money may be safely and to a large extent laid out or employed. I know of but two limitations in the profitable use of money in this calling, to wit: the capacity of our lands for improvement, and a reduction of prices of products by a surplus over demand. Both of these must be too remote at least from the people of E. Virginia, to cause any present alarm. We have before us then large fields and ample space for all that our purses can endure.

Feeling great confidence in the permanent improvement system, I beg leave to set its claims up first; in this I have had more experience. As far as it can be extended judiciously, I know of but few occupations, all circumstances considered, to which agriculture will yield in returning interest on capital. Six per cent is our legal interest on one hundred dollars loaned, an amount of profit perfectly insignificant in comparison with the application of that amount to a poor field in the form of permanent manure. For one hundred dollars, I can purchase ten or twelve hundred bushels of lime, which with the hands and team of my farm, without extra charge, I can haul and apply to thirty acres of land. This land may be supposed capable of producing two barrels of corn, and four or five bushels of wheat, when the lime is applied, (and we have a great deal of this soil, and much that is still worse in the tide-water regions of Virginia,) now I ask for the result. Such an application may be expected to produce with much certainty, at least three barrels of corn, and six to eight bushels of wheat. Each acre having received about three

dollars, is only bound to take care of the capital and return *eighteen cents*, in order to be equal to a loan of this amount. But see, we have one barrel of corn and at least two bushels of wheat, besides clover and pasture and permanent improvement, by which I mean the taking care of the capital, all in one rotation. The corn and wheat will generally, at present prices, return the whole capital, besides leaving the land, every acre so treated, doubled in value. Extend these ideas to any sized farm and to the worst of circumstances, and still the results will be most satisfactory. Similar results may be attained from that form of lime commonly known as marl. This is an admirable improver and very permanent. I have used it extensively in the course of twenty-five years or more, having I suppose, marled within that period at least five hundred acres. In using this article under the usual diverse circumstances generally attending its application, I have thought that the common average expense of marling two or three hundred acres, taking the far and near into consideration, might generally be set down at three dollars per acre, the hands and team being owned by the proprietor. It would cost much more if he had to hire. But here again, we have at least one hundred per cent on the capital, in immediate results, besides great permanent improvement. And I think I speak moderately when I say, that any and every acre of our well reclaimed dry land, is doubled in value by a judicious application of marl. Here then are two uses for capital in which the farmer who has money need make no mistake. And these first steps are but the beginning of a work which need never cease until his land reaches the maximum of its ability, or the prices of his products fall down to a minimum that this generation is not likely to see. But again. Suppose a farmer to have money and labor, but is too far from navigation or a rail-road to make lime available, and is without marl, what is he to do? I answer: proceed immediately to invest capital in the production of compost. Let him cut off at the most convenient point for the purpose, a section of some quagmire branch, or rich meadow land, (swamp I mean) by a deep ditch, so as to render it as dry and as light as practicable. Near this in his pasture, let him establish his summer cow pen, as we say. Into this, just before the cattle are turned out in the spring, cart a covering of leaves about a foot thick and commence penning. Having set apart an annual manuring force, proceed forthwith to lay on a foot of mud, from the cut above described. (Let the pen be twenty-five yards square for twenty cattle.) Over the mud scatter a few barrels slacked lime and fifteen or twenty bushels of salt, and in a few days repeat the same process of gathering, one layer after the other, until November or December. By this time, the farmer who takes this course, will find himself possessed of a large mass of good (not very rich) compost, which may during the winter be carted out for the succeeding spring crop with striking advantage. At the same time, he will find it difficult to lay out one hundred dollars in foreign articles. A little lime, a few barrels of plaster, which I omitted to mention, and about twenty-five dollars in salt, will make manure enough to improve considerably, from twenty-five to forty acres of land. The whole mass should be occasionally turned over or stirred. Various articles of a permanent character may be purchased, provided the capital will justify it. Indeed the far-

mer who is out of debt and has money on hand, may venture largely, with but little risk, in the purchase of any permanent improver of the soil. But what can be said of guano? If I am not greatly deceived by the signs among us, its advocates are becoming at least doubtful of its availability. I think that they begin to perceive already the striking difference between a manure which must be made available at the present, or be *gone forever*, and those manures, which, though they have to lie dormant in their effects, by disaster, will be found in their place and ready for their work when the farmer comes again. The corn may be short—the wheat be destroyed by rust, or fly, or hail, and still he holds on, and still hopes for the clover to cheer his eye, fill his cattle and fatten his land, growing as it will, on the substantial basis of lime, animal and composted manures. If no other consolation should be his, he remembers that his investment is safe, and must sooner or later return to him full usury for his patient indulgence. But with guano, it is *now or never!* I know it is said that it will produce a good return of clover. I have no doubt that many think so, who have seen good clover follow its use. But let all such be pleased to look back and examine these facts. Did any man ever see a good crop of clover follow the use of guano, on land which could not have produced such clover without it? Did any man ever see a good crop of clover follow the use of guano, where the soil had no lime nor ashes in it, or was not dressed previously with some strong manure? But admitting that clover will follow guano (I mean in every case after wheat), on poor land which has no lime in it, has any one ever seen the clover repeated, without a second application of guano? I mean to express strong doubt by these questions. I have made a small trial of guano, this year, and think that it may possibly return my outlay barely, which looks very much like making my hundred per cent on the permanent system. But where is the hundred per cent which that plan left in the soil? We have heard a great deal about the per centage on the use of guano, but I verily believe a great deal of it to be a mere delusion. To be equal to permanent manures which are able to add a hundred per cent to the soil, and then two hundred more to the pocket, it must make according to my calculations, at least four hundred per cent, to justify its use in comparison with them. Let us look at this a moment. I submit, that four hundred dollars judiciously applied in raising stable, cow and hog manures, duly composted with plaster, salt, bone-dust, mud and leaves, through the winter and summer, by four hands and two carts, two of the hands only being valuable, with but very little money, may be made to produce on any tolerable farm, manure enough to enrich well fifty acres, and more lightly, fifty acres more. Apply these means to lands which will produce three barrels of corn and six bushels of wheat, and the first fifty will yield 5 barrels and 10 bushels of wheat; while the second fifty will yield 4 barrels and 8 bushels of wheat, besides adding four hundred dollars intrinsically to the value of such field. Having been marled or limed, clover or pasturage becomes additional sources of profit from the improvement. We have then a gain in one rotation of four years, of one hundred and fifty barrels of corn, three hundred bushels of wheat, a large increase of provender, clover and pasturage, which at farm prices and estimates, will very nearly, if

not reach eight hundred dollars in the way of return. Thus we have according to these figures, one hundred per cent in the soil deposited for future use, one hundred in the pocket ready for a similar use, and one hundred clear, to spend or otherwise dispose of. So much for capital laid out and applied in permanent manures, for one rotation not to say several, which might be as justly claimed, and which I shall do if hard pressed.

But can guano present a better investment? Should it, I think it must yield something like four hundred per cent in its own way. Its best friends are beginning to fear, if not admit, that it will leave the soil but little if any better than it finds it. I have no doubt that it will leave it worse, as do all great exhausters by a rapid vegetation. Let us compare the four hundred dollar investment. To do it justice, I will put it at 40 dollars per ton, which is too low, and divide the purchase of ten tons into two parcels, one for corn and the other for wheat. At four hundred pounds to the acre for corn, the first portion will contain 25 acres of land; at two hundred pounds to the acre, the other portion will cover 50 acres for wheat. Believing that by the harvesting of the corn there will be but little remaining virtue in the guano of the corn land, I judge that its friends will not object to my embracing within the last named 50 acres for wheat the 25 acres of corn land. And now for the result. I will allow, that the twenty acres in corn, shall produce instead of three, eight barrels per acre, making a gain of 125 barrels; and that the 50 shall have 21 bushels allowed, instead of six, making a gain of 15 bushels to the acre, or 750 to the crop. Add to this any other available emolument, and we shall find an aggregate result of less than twelve hundred dollars, without any permanent improvement of the land, and perhaps great exhaustion in many cases. But add to this view of the claims of this article, the fact, that at least once out of three years, we may look for such a failure in our crops, as to come short of returning our outlay, much less any interest on the capital. Let two or three of these failures follow in succession and our capital is wasted utterly in the winds, no more to be gathered. Every outlay so lost, is to constitute a fair drawback on each subsequent investment, and must be replaced before profits should be named; unless we mean to cheat ourselves and deceive our neighbors.

In making the foregoing suppositions and calculations, I have not arrived at strict precision in actual results, but have desired to arouse the public attention to reflection as to a safe course of action in reference to this matter. My calculations may be graduated to any scale, but the result will be pretty much the same.

In conclusion, I will remark, that while I fully believe that our farmers are experimenting dangerously in guano, in making large investments and uncertain applications of it, I as fully believe that it may be turned to good account by many. It seems wonderfully adapted to what we call here *dead-poor* land. And fortunately for the trade, we number a large list of proprietors of that sort of property. Such proprietors are not apt to have much money to spare, but should they, let them buy and apply guano. A gentleman, a warm admirer of it, told me the other day, he did not think that it ought ever to be applied to land that could bring six bushels of wheat to the acre. I would say trust it on none that will produce four bushels;

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the poorer the land, the greater the profit of guano. But it strikes me theoretically, that the best use of it, with an eye to improvement, would be on poor land fallowed and sown in field peas, to be turned in for wheat in the fall. That might give a good crop of wheat, and leave the land somewhat improved. Let facts decide the question.

J. DU VAL.

King and Queen Co. Va., July 18, 1850.

### WORK IN THE GARDEN.

Ere we commence our directions for the month, we would respectfully remind our lady readers, that the GREAT FAIR of the MARYLAND STATE AGRICULTURAL SOCIETY will be commenced in BALTIMORE, on WEDNESDAY, the 23D DAY of OCTOBER next, and be continued for three days; and that it is expected that the flowers, fruits, vegetables, poultry, embroidery, household manufactures and the products of the dairy, will, through their instrumentality, be so abundant as to render the department allotted to their management, next to themselves, the most attractive part of the exhibition.

Having thus called attention to the great Fair, we will direct attention to the work which should be attended to in the garden during this month,—and will here premise, that whatever may be directed to be done, except when otherwise stated, should be done as early in the month as possible, as in gardening, a few days out of time often proves disadvantageous to success.

**Sowing Cabbage Seed.**—We have been impressing upon you for years the propriety of sowing cabbage seed this month, to set out in November, with the view of inducing you, annually, to supply your family with a stock of early cabbages, and we again repeat our former advice.

**Preparation of the bed.**—Select an open border or part of a bed, manure it well, dig and rake it well until the tith is perfectly fine, then divide it into as many compartments as you intend sowing different varieties of seed; this done, sow each kind separately, rake the seed slightly in, and either roll or pat the earth down with the back of your spade.

The following varieties will ensure a continuous supply of fine delicious headed cabbages next summer and autumn, viz: The *Early York*, *Early Nonpareil*, *Early Vanak*, *Large York*, *Early Sugar Loaf* and the *Flat Dutch*.

If the weather should not be seasonable, give your seed bed a good watering at the time of sowing the seed; continue this every evening until the plants come up. Just as your plants get above ground, dust them with equal parts of *flour of sulphur* and soot, first having watered them, so as to make the mixture adhere to the leaves. Repeat this several successive evenings, and you will secure your plants from the destruction of those insects which so often destroy them. Should your plants not grow off finely, water them a few successive evenings with the following decoction: Put half a bushel of horse-dung into a barrel, together with 1 quart of soot and 2 oz. of sulphur, tied in a bag, then fill up the barrel with water. In 24 hours this will be fit to use, and may be filled up several times. This mixture, if regularly supplied to the plants, will ensure luxuriant growth, and protect them from the fly; but this luxuriance, and this protection, is only to be secured by repeated applications. A few minutes labor each evening, for a few days, will suffice, and surely there is no excuse for the loss of plants to be found in the non-performance

of what is, and ought to be considered, a pleasant duty.

**Sowing Cauliflower Seeds.**—From the 20th to the last of this month will be a good time. Select a rich spot, mark out a bed about 3 feet wide and 4, 5, or 6 feet long. These dimensions will grow plants enough for a large family, or for market: Manure the bed with rotted manure, dig it in nicely, rake the bed well, sow the seed thinly, rake them in lightly, and pat down the earth gently with the back of the spade; then give the bed a good watering, gently applied from a watering pot.

Treat the plants precisely as recommended for cabbage plants. In about a month after sowing, they will be large enough, when they must be transplanted into garden frames, about 3 or 4 inches apart, there to remain during winter, to be treated as we shall hereafter direct.

**Spinach.**—Hoe and clean all grass from your spinach bed.

In the beginning of this month prepare a bed in a dry situation, and sow seed for winter and spring supply. Manure your bed liberally, dig the manure in well, rake the ground finely, drill in your seed, in drills 12 inches apart. When the plants are large enough to admit of it, thin them out, so as to stand about 4 inches asunder. Treat your spinach plants as advised for cabbage plants, and you cannot fail of a good crop. Whenever the weather may be dry, until after frost, see that your gardener does not spare the watering pot, and that he does not let the weeds get ahead.

**Lettuce.**—Such of your plants as are large enough should be transplanted for heading.

Select a warm Southern exposed border, manure and dig it well, rake fine, and sow more seed, rake the seed in well, and compress the earth with the back of your spade.

**Small Sallading**, of all kinds, may be sown at intervals of ten days during the month.

**Turnips.**—Have your patch of turnips weeded, hoed and thinned out, so as to stand 6 or 8 inches apart.

**Celery.**—Earth up your celery which may be planted out, as often as its advance in growth may need it, so that the blanching may be effected in good time.

If your late plants are of sufficient size, you may transplant them in the trenches.

**Radishes.**—In the first week in this month sow a good supply of radishes, for fall and winter supply.

**Endives.**—Early this month transplant your endive plants.

**Siberian Kale.**—For many years we grew this fine variety of spring sprouts, under the name of "*Brussels Sprouts*;" but in the progressive spirit of the age, we find it has found another name, and we will have to conform to it. We will here remark, that it is a delicious vegetable, fully equal to the sprouts of the cabbage, and as it requires no labor after the seed is sown, every farmer's garden should have a bed allotted to its growth; its yield is great, it is saleable in market, and brings a good price, for every palate delights in its fine rich flavor; but these sprouts never show to greater advantage than when gracing the table of the grower.

**Selection and preparation of the bed, &c.**—Select a dry loamy bed; manure it heavily, dig in the manure fully spade deep, then mix 6 parts well rotted manure and 2 parts ashes together, sow it pretty freely over the bed, rake thoroughly; sow your seed tolerably thin, rake them in lightly, then sow a mixture

of equal parts of plaster and ashes over the bed, so as to give a good dusting to it; then roll the bed or pat it down with the back of a spade or shovel, and all the work necessary will have been done, except to water the bed in the event of a drought. Next spring, about the time that your cabbage sprouts are getting stringy, your Siberian Kale Sprouts will be as crisp, and almost as rich and delicious as the flowers of the Cauliflower or Broccoli.

**Herbs, Culinary and Medicinal.**—These may all be set out at any period during the month. If the weather should prove dry, you must be careful to have them well watered every second or third day.

**Gathering Seeds.**—As your seeds ripen, have them gathered and placed on sheets for drying; when dry, put them away carefully in bags, taking care to mark each kind.

**Strawberries.**—If you have not a bed of this delicious fruit in your garden, you should have one, so, therefore, let us advise you to set out a bed this month or early next.

**Selection of ground.**—The strawberry will grow on any soil, but delights most in a deep loam, tolerably moist, but not wet. Select such a bed, then.

**Preparation of the bed.**—Lay it off into beds 4 feet wide, with alleys between 18 inches wide, for the convenience of picking and working. Put on a heavy dressing of manure, composed of 6 parts well rotted stable dung or barn yard manure, and 2 parts ashes, dig it in the full depth of the spade or rake; then top-dress with some of the same kind of compost—rake that in. Set the plants out in rows 18 inches wide—the plants to stand 12 or 18 inches asunder in the rows. When you set them out, give the plants a thorough watering, and water them every second day thereafter about sun-down, until they take root.

Just before the ground freezes, cover the spaces between the plants, in the rows, with stable manure—dust over that a little salt. Next spring work this manure in with a fork, and lay long straw or tanner's bark between the rows, to keep the earth moist and the fruit from grit, and you cannot fail of success. What we have advised, we know from experience to be right.

In the purchase of your plants, or runners, be particular to secure good large varieties from reliable sources.

The following kinds would be an excellent assortment, and afford a protracted supply, there being about a week's difference in the period of ripening between the earliest and latest: the *Early Virginia*, *Boston Pine*, *Jenny's Seedling* and *Hovey's Seedling*. The latter being a pistillate, female, variety, will require a staminate, male, variety, to be planted near it, for purposes of fecundation. If the *Hudson* were planted every third or fourth row in the bed, it would answer. Such a selection would secure a supply for at least two weeks, if not longer, a consideration, with such delicious fruit, of moment, whether intended for home use or for market.

**Budding and Inoculating** may be continued throughout the first two weeks of this month.

The bandages of such plants as were budded three or four weeks since, should now be untied, to prevent their sinking into the bark.

**Dahlias.**—If you desire luxuriant blooms of dahlias, keep them well watered, not forgetting to give them, occasionally, full doses of soap-suds.

**Weeds.**—Make repeated examinations of your garden, have all tap-rooted weeds pulled up, others cut down, and all burnt. No weed of any kind should be permitted to go to seed—nay, not to grow an inch high, in the garden.

**Hoeing.**—See that all your vegetables are kept clean from weeds and grass, and the earth open to the invigorating influences of dew and rain.

**Watering.**—In dry weather make your gardener use his watering-pot with a liberal hand, as moisture is indispensable to the successful growth of plants.

#### SUBSTITUTE FOR ASHES.—SOURCES OF MANURE.

There are many landed proprietors whose arable soils require potash, but who live too far distant from large cities, where alone supplies of ashes can be obtained. Persons thus situated, who may have marshes on their estates, by digging up a foot in depth of the soil of such marshes, with the roots and vegetable matter therein contained, permitting the water to drain off, and then burning the substance in a smothered fire, as charcoal is burnt, will not only find in every two hundred bushels of such ashes a sufficient quantity of potash to dress an acre of land, but many of those other substances which contribute to enrich the soil and promote beautiful vegetation.

Perhaps the most economical method of converting marsh mud, and similar substances, into active manure, would be, to compost it with stable or barn yard manure, in proportion of two loads of the former to one of the latter, the upper layer or cover to be a thick one, composed of the marsh mud. Such composts would, after a few months, turn out a body of manure fully as fertilizing in its effects as either stable or barn yard manure by itself. So, also, may the same result be produced by covering the cattle yards and hog enclosures with the substances alluded to, to receive and absorb the liquid excretions of the stock, and be ultimately mixed up with the more solid parts, in the spring, before removal to the field.

Those who have access to marl beds, can, by forming composts, consisting of 100 bushels of marl to twenty double horse cart loads of the matters alluded to, provide themselves with an indefinite quantity of the most fertilizing materials for their lands, and at a comparatively small expense, as the labor may be performed at such intervals as would not materially interfere with the regular business of the farm. This plan of marling has much to commend it to our favor, as the soil would not only be supplied with the calcareous principle, but with those other principles which form the basis of carbonic acid gas, and nitrogen, besides various salts, which, in their action and reaction, so eminently conduce to promote fruitfulness in the earth, increase the farmer's crops, and put money in his pocket.

#### METHODS OF DESTROYING RATS.

1. A correspondent of the *Mark Lane Express* suggests the following plan for the destruction of their obnoxious vermin: Feed with flour and a few sweet almonds bruised and mixed together with a small quantity of treacle, to form a paste, (add a few drops of oil of aniseed) for 5 or 6 nights, until they take it freely, never laying more of the mixture than they will eat up clean; then add a teaspoonful of carbonate of barytes to about a pound of the paste. I prefer the barytes to arsenic, it being free from the taste of the arsenic, which the rats will never take a second time. By using the above composition I have kept my premises clear at the expense of a few shillings a year.

2. The editor of the *American Farmer* has found fresh fish the most acceptable bait on which to sprinkle arsenic for the destruction of rats. In the first place, these animals are passionately fond of fresh fish, while their strong odor entirely destroys the acid flavor of the poison.



**To Correspondents.**—We are promised for the Oct. No. an interesting paper from Dr. J. O. Wharton, detailing a very successful experiment made under his supervision, on the farm of Hon. Reverdy Johnson, near this city, which has excited some considerable interest. The soil was analysed by Prof. Stewart, and the manipulations made at the chemical laboratory of Messrs. Kettlewell & Davison, in accordance with the directions of Dr. Stewart.

Communications from W. H. D. C. Wright, on the successful use of Sinclair's Wheat Drill in corn land—and from W. W. B. of Western Virginia, on the renovation of worn out lands by sheep husbandry, have been received.

Stalls have been engaged for twenty head of the beautiful Devons of George Patterson, Esq. for the Oct. Exhibition in this City.

**Guano.**—Peruvian is selling at \$55 per short ton, and but little in market. Patagonian, \$36 a 40.

**Agricultural Institute at Mount Airy.**—We learn from the Principal, Mr. Wilkinson, that the winter session of his school will commence on the 1st of Oct. next, and that the patronage is on the increase. From present indications, the number of pupils will be fully as great as can be well accommodated.

**CARROLL Co., Md.**—A letter to the editor from the Monocacy, dated 4th July, gives the following account of the crops, &c. in that section:

"We have just finished cutting our grain, which is a fine crop, taking all things into consideration, though some fields were much injured by the rust and fly, and some winter-killed. The Mediterranean wheat is the best in general, so far as I have seen and heard from, and I do think it is the surest crop we can sow. It has proved itself fly proof, ripens earlier, and will grow on thinner land than any wheat I have ever seen. I was last week at Frederick, and whenever I saw a very fine field of wheat,

it proved to be the Mediterranean—some fields of smooth wheat, say the blue-stem Zimmerman, &c. were very sorry, scarcely worth cutting. Perhaps this is not the case all over the State. Guano is much thought of in our part of the country, as many fine fields of wheat have been made by its application, and I think there will be much used this fall, if it can be got at any reasonable price. Some farmers think highly of Chappel's salts—I wish to use the salts this fall. I have given the guano a trial, and am much pleased with it, but at present prices it is most too dear."

#### REVIEW OF THE TOBACCO & GRAIN MARKETS.

*Reported for the American Farmer by J. W. & E. Reynolds.*

The inspections of Maryland Tobacco for the month past were smaller than was anticipated, by several thousand hhds.; this fact with the small stocks previously held in first hands, caused prices to be well sustained throughout the month. The commoner sorts are selling briskly if not fired at 4 to 4½¢, while the best descriptions, (with the exception of 1846) were never lower. Hence our country friends are generally pleased with the sales of their dark tobacco, whilst most of them are disappointed with the prices of their finer sorts; upon the whole we would advise our friends to ship their tobacco crops, (or the remainder of what has not been shipped before) to market as soon as practicable. The quantity as well as the quality of the crops in Maryland this year depends entirely upon what sort of a fall we may have, as it is believed that the growing crop was never more backward than that now on the ground, nothing but an unusually warm fall can prevent its destruction. We quote the common dark crop and second at 3½ to 4½¢; good crop 5 to 6¢; good and fine reds 6 1-2 to 8¢, but not much at the last named price.

**Grain.**—The crops of wheat has doubtless been much injured by the rust, throughout the State, and thereby shortened in quantity from a third to a half. We quote good red 1.00 to \$1.07; white 1.05 to \$1.10; family flour, wheat, 1.15 to \$1.20; inferior qualities of both red and white wheat, 60 cts. to \$1. Corn, white, 55 to 58¢; yellow, 60 to 62¢. Oats, 30 to 37¢. Rye, 60 to 65¢.

## Kettlewell & Davison's Agricultural Depot: MANUFACTURERS of every description of Simple and Compound Chemical Manures.

### RENOVATOR OR CHEMICAL SALTS;

Factory, Hamburg street, Federal Hill. Office at the wholesale Drug Store of Ober & M'Conkey, corner of Lombard and Hanover streets, Baltimore.

The undersigned, respectfully ask an attentive perusal of the following certificates, in reference to their *Renovator*, or Chemical Agricultural salts; for if they even fail to enlighten the prejudiced, or satisfy the distrustful, an abundant remuneration will be found for the time consumed in the intelligence, observation, and interest which the question of manure involves, and which is equally shared by the whole agricultural community. From no other source in this State, or out of it, could more reliable testimony be found, based as it is, upon the highest intelligence, practical experience, capacity, and disinterested truthfulness. It is, however, lamentable to know, and to feel, that one unfavourable experiment, does more injury to the introduction of any manure, than ten decidedly favorable experiments does to secure public confidence. In this suspicion and doubtfulness, the Farmer is the greatest sufferer himself; nevertheless it is the history of all manures, and that from the barn-yard would have shared the same capricious judgement, did not its rapid accumulation require removal.

Look at the early history of lime, its struggles to win popular favor, although in point of durability,

perhaps, the parent of all other manures. It was not until the more practical faith and judgement of a sister state had fully developed its now unquestioned utility, that many portions of our own became satisfied of its fertilizing properties; and yet it is a well known fact, that whole districts of country have for long periods abandoned its use in regions where it was cheap and accessible, because one or two experiments had failed, owing no doubt, to the soil requiring a different element, having a sufficient supply of lime, without, it may be, a trace of something also equally necessary to improvement.

Such, too, is the history of Plaster, of Bone dust, Guano, Ashes, and Marl. Recently, science has shown the far greater advantage of bone dust (biphosphates) dissolved in sulphuric acid, with a proper proportion of sulphate of ammonia, and made as fine as ashes; yet we find the popular mind but slowly receiving this demonstrable truth, notwithstanding every experiment triumphantly vindicates its incalculable advantages. In a few years it will be universally admitted.

Such prejudices, however, are fast fading away; but enough remains for us to know, that our en-

terprise must, if it has not already, passed through the same ordeal.

In durability, we know that our chemical compound is only second to lime—in promptness dividing the palm with Guano. On some soils it has been as active as guano, on others, more or less so; but on any, by far the most lasting. In promptness it has a corresponding advantage over lime. The wisdom as well as the interest of the farmer, should make a permanent improvement of his land a matter of primary consideration. And as we entirely concur in the opinion, which all do not, that the natural soil has great influence upon the action of manures, we volunteer to every farmer this advice: Pronounce no manure a *humbly* sustained by such testimony as we present in support of our salts, but never buy more than a very small quantity until you try its adaptation to your particular soil. Follow this rule, and while no one will be injured, neither will you do injustice, either to your neighbor, or to the manufacturer. For a manure which for the first season may have done but little apparent service to you, may be of no ordinary benefit to your neighbor, of which by your discontent and example, he may remain in ignorance.

The farmer in calculating the value of manure, does it upon a relative principle. In the purchase of lime, how much, and how long will it benefit his land? In the purchase of Guano, how much will he make the first crop? Those who buy our salts should unite both these calculations, and however much he may be gratified by its prompt and immediate action, we will risk our reputation, that he will be far more so, with its durability.—It is prompt and it is lasting! hence in applying two barrels of the Renovator to the acre, instead of one, the agriculturist is only paying for a manure the benefit of which he will acknowledge from his first to his sixth crop!—We have been asked why something like our salts was not introduced years ago? We reply, that years ago our lands were not worn down as they are now; and the absolute necessity for investigation and experiment not so imperiously demanded.—Independent of which, must the agricultural interest *alone*, and pressed upon every side, stand still? Is every branch of industry to progress—to develop,—and this immense interest—the foundation of all others, have limits?—Why, we say, to all who ask this question, that every one who has been using Barn yard manure all his life, has been using many of the elements of our Chemical Salts; but in a far less powerful and concentrated form. But others have said, and will read the certificates annexed, and again say, the quantity of one or two barrels to the acre, is too small: such results are utterly impossible! We ask him to look at the Mammoth Steam Boat with its thousand tons of Cargo, propelled by a few hogsheads of water! Those natural laws which guide the one, govern the other. They are alike unalterable and immutable.—Science often amidst shouts of scorn promises results, and experience demonstrates their truth. In conclusion we have no cause of complaint; on the contrary, our success and patronage does infinite honor to the great and intelligent interest from which we asked it.—The farmer has made our manure a standard one, and below that standard it will never go. We have every season sold all we manufactured, and each succeeding season the demand has rapidly increased.

It will be seen that most successful experiments have been made by using 100 lbs. of the best Peru-

vian Guano, and 200 lbs. of our salts—(the cost of both being less than 200 lbs. of guano.)

When this is done, it should be strictly borne in mind, that the *guano should be ploughed in*, and the salts as slightly harrowed in as possible. The one rises through the earth—the other sinks.—The ammonia in the guano is free or volatile—in the salts fixed as a sulphate. For the information of those who are not acquainted with the elements of which our Renovator is composed, we make the following extract from our first publication:

“The soil may contain a supply of all the materials referred to; but frequent cropping may have used up all those in a free state. Now, under these circumstances, we may renovate the land by supplying all those materials which are required for the crop without drawing on the soil, but actually *resting it and keeping it covered*, while undergoing the process of disintegration; all of which, *experience* says is important.

A rotation of crops is not the best mode of accomplishing this object; for although all crops do not remove from the soil the same proportion of its elements, yet they are removed, and the land is impoverished. On the other hand, we are taught by experience, that land exposed to the sun's rays is not improved by rest as when “covered.” Guano will, in many cases, supply the deficiency of two of the elements necessary for the growth of a crop; but is found frequently to fail, because *these two elements* are not wanted by this particular soil; and the experiment is a hazardous one, for the failure is not only a loss of time and labor, but the manure is an expensive one, and the crop is twice lost. Stable manure, plentifully applied, will generally accomplish the object; but it is not always to be had in sufficient quantity; and many soils are injured by the admixture of so much vegetable matter, while the salts contained by the stable manure would have been beneficial *alone*. But, under the most favorable circumstances, we are prepared to prove that it is cheaper to apply one cart load of Salts, containing the extract of one thousand cart loads of stable manure, than haul out the latter, although it cost nothing. We call the attention of the public to the fact that we do not merely stimulate the growth of *one* crop by the application of an agent like guano or plaster; neither do we profess to have discovered some new combination or panacea for curing all the defects of drainage and bad cultivation; but we challenge the severest scrutiny to detect the absence or deficiency of any Salts that is required for the usual crops, in the proportions indicated by the best authority; in other words, we propose to put on land exactly what would be taken off by the next crop. Take, for instance, one of the elements of our Renovator, phosphate of lime; eight pounds are removed from the soil in every ton of hay, wheat or straw, and one pound by every one thousand pounds of wheat or oats. Twenty pounds will supply an acre with this material for three crops of wheat, clover, &c. &c.; and one barrel of our Renovator will, consequently, provide more of this material than any six crops can remove from an acre. Moreover, we will engage to forfeit 200 barrels of our Salts to any individual who will produce a barrel of the Renovator that contains less than the average in the hundred pounds of guano of phosphates of lime.

A bushel of green dung weighs 87½ pounds, of this 83½ per cent is Water, and only 2½ is sol-

ble. One hundred pounds of dung contains nearly  $\frac{1}{4}$  of a pound of Phosphate of Lime, so that one barrel of our Renovator is equal to about two hundred and fifty Bushels of pure dung, with reference to Phosphates alone.

But if we compare the fixed soluble Salts, one barrel of our Renovator, represents more than four hundred bushels of dung; for one hundred pounds of dung do not contain  $\frac{1}{2}$  a pound of Salts. If it were possible to burn up the cartload of dung and collect the Silbs. of ashes, without losing the ammonia that would be volatilized, it is manifest that much labor would be saved in its application.

Now this we propose to accomplish in the use of the Renovator. All experience shows that the combustion or rotting of the dung, when spread upon the field does not supply even this proportion of salts, for the straw or hay of the dung is frequently preserved for years without decomposition retaining the phosphates, &c., while the ammonia is evaporated and lost to the crop; whereas the ammonia of the Renovator is supplied as a sulphate or fixed salts of ammonia more than 24 lbs. to the barrel. Apart from all this, the seeds of noxious weeds are spread broadcast upon the growing crops with every bushel of dung. It is estimated by the analysis of the ashes of the soap boiler that every barrel of our Renovator contains as much Potash as six bushels of their ashes; and the salts of lime in each barrel contain more pure lime than a bushel of the best quick lime from the Schuylkill. The Salts of Magnesia and Soda in each barrel, will amount to fifty pounds, and the Sulphate will exceed seventy-five pounds in each barrel. Moreover we pledge ourselves always to supply the proportion as above in every barrel, and will make the forfeit referred to above, to any one who can produce a barrel deficient in any of the articles as represented above."

#### GROUND PLASTER.

The undersigned ask the special attention of the Agriculturists to the very able Report of the State Chemist for the past year, that they may be thoroughly informed upon the variable qualities of this important article. It is well known that plaster is alone valuable for the quantity of sulphate of lime which it contains; and this valuable document shows that from a number of analyses made by him it varied from 40.100 to 85.100. Now as there is one established price, the farmer who buys the inferior pays more than double the price of the one who gets a good article, and never knows to the contrary. We have only to say that ours shall be similar to what we have already sold—that our name will be stamped upon every barrel, and that the Agriculturist will get what he pays for. Those who order through Agencies should indicate that they want ours, provided such is the case.

#### BI PHOSPHATES.

We keep constantly on hand this valuable Manure. Bones, with a proper portion of the Sulphate of Ammonia, dissolved in Sulphuric Acid. The Chemists of this country and Europe have been pressing this mode of using Bone Dust upon the attention of farmers, with great zeal and ability of recent years. Every experiment has confirmed the truthfulness of their theory; and we hazard but little in saying that in a very brief time it will be used in no other way. It is prepared so as to be sown similar to the Salts, at the rate of one to two barrels to the acre. The price of this article is \$4 per bbl.

Let the Farmer who doubts, try it at a less expense than the old mode of using Bone-Dust.

#### TOBACCO GENERATOR.

This is a Chemical Compound made expressly for the growth of the Tobacco Plant. We will call more special attention to it at the proper season.

#### CHEMICAL RESIDIUMS.

We have constantly on hand Chemical Residuum of every description. Full information of which can be had by application to us.

#### COMBINATION OF GROUND PLASTER AND POTASH.

This is a preparation made for soil deficient in Potash, of which deficiency there is, unfortunately, too many instances in much of our Maryland land. For this compound we are indebted to the suggestion of an accomplished Agriculturist of Prince George's county, who may at some future day present the result of his experiment. The price of this is \$2 50 per barrel.

#### DIRECTIONS.

The mode of using the Renovator is simple, inexpensive, and requiring but little labor. The Farmer must bear in mind, that in the preparation of his soil he shares an equal responsibility in testing the merits of any manure. Land negligently or badly cultivated gives no manure a fair chance. How to put land in order he ought to know better than we can teach him, and if he don't know, should learn as speedily as possible. The land, then, in order—if one barrel to the acre is used,—and this quantity depends upon the quality of the land—it should, for grain be sown broadcast, and slightly harrowed in.

If two barrels are used, one as stated above, and the other as a top-dressing upon the wheat or rye early in the spring at the commencement of the first thaw. Upon grass it should be sown broadcast upon the timothy or clover. On corn, either broadcast or in the hill. Where two barrels are used, one each way.

**PRICE OF THE RENOVATOR \$20 PER TON, OR \$3 PER BARREL.**

In consequence of this Advertisement extending to unusual limits, and the necessity of going to press, combined with our anxiety to have every unfavorable report published, we are compelled to omit many kind and favorable evidences of the virtue of our Salts, that we have received from our friends. To them our gratitude is not less due, and we will, hereafter, present them to the public through the columns of the American Farmer.

FROM REV. J. S. A.

CUMBERLAND Co. Va., July 31, 1850.

Gentlemen—Another reason for a short delay in writing was, that I had hoped to be able before this to thresh the field of wheat on which I put the Renovator at the rate of a barrel to the acre. But we have had such frequent and heavy rains, that this work could not be done. I always refer to the granary and to the half-bushel, as the only reliable test of the value of a manure for wheat. I believe I said in a former letter, that I had applied to one field of 30 acres about 200 lbs. Peruvian Guano per acre, and 30 bbls. of the Renovator to another field

of the same size, with a view to ascertain the comparative value of these manures, for the crop and the land. At present I can only give results as they appear in the field.

The field to which Guano was applied contained the best land, or a considerably larger portion of land partially improved. The crop, for the year, is a very good one, and ripened generally with little or no injury from rust. Probably an acre and a half or two acres, where the wheat lodged, suffered considerably from rust. I think the field will average twelve or fifteen bushels to the acre. The set of clover and timothy is a very good one, and the land shows very marked improvement. Without manure, of an ordinary year, I should have calculated on seven or eight bushels to the acre: this year, with the injury to the wheat crop from rust, I should not probably have had five bushels per acre of sound merchantable wheat; and clover and timothy seed would have been thrown away upon about half the field. The money, then, for the guano was very profitably expended. On 10 or 12 acres of this field I applied ten bushels of oyster-shell lime to the acre, but with no appreciable benefit to the wheat.

On the other field, as I said, I put 30 barrels of your Renovator, a barrel to the acre, without any regard to difference in the fertility of the different portions of the field. There were 10 or 12 acres in this field in good heart; the balance was quite poor—too poor to pay the expense of cultivation in wheat. On the better portion of the field, the action of the Renovator was most marked and beneficial. The yield will be as heavy, I am sure, as the best of the guanoed field, and the set of clover and timothy as good as I could ask on any such expenditure. This field ripened without rust, and the grain is remarkably fine. On the very poor parts of the field, the crop was light, the straw and the heads short, but the grain good. The clover really astonishes me; the set is good, and the growth vigorous, on portions of the land on which it would have been idle to hope to grow it. In this respect I consider your manure invaluable. I believe I shall be reimbursed in the crop for the outlay; and in the improvement of the land, I am certain I shall get an interest on it, that ought to satisfy the really avaricious.

I ought, in justice to you, to say, that the Renovator, in consequence of delay in getting it on last fall, did not exactly have a fair chance: I did not put it on till the early part of February. I am confident I should have had greater benefit from it, if it had been put on at the time of seeding the wheat. It does not make straw like guano or stable manure, but I am satisfied that it is better than either to make grain. If I had applied two barrels instead of one to the really poor land, I believe that the profit would have been greater. As it is, I am satisfied that it pays well at once for the cost on wheat, with a greater prospective benefit to the land.

I tried a few barrels on very poor oat-land, at the rate of a barrel to the acre, with very little apparent benefit. The season for oats in this region had been a very bad one; so that I would not condemn it strongly for a failure here. Intending to put the land in wheat, I sowed no clover or other grass-seed with the oats. I feel confident that I shall be well paid in the wheat crop.

The conclusion at which I have arrived from a careful observation of the effect of Guano and the Renovator is, that if the two were combined, say

at the rate of 100 pounds Guano and a barrel of the Renovator to the acre, it would probably be a better application for crop and land, than the same amount of money expended in the purchase of either. At any rate, it is my purpose to practice on this suggestion.

I have thus given you a candid statement of my experiments with your manure, which, if you think proper, you can use. I am opposed, on principle, to any thing like puffing. The public have been too much imposed upon in this way.

Send also 15 barrels of your ground plaster. The reputation of this article is established firmly here; and I know not how much I shall have to order. I shall want more for myself in the spring.

VINE COTTAGE, Baltimore Co. Aug. 16, 1850.

Messrs. Kettellwell & Davison:

Gentlemen—I have just received yours of the 13th inst., asking the results of my experiments with your agricultural salts.

It affords me pleasure to state that they have been entirely successful, as the following account will show.

Last fall I ploughed two eight acre fields, turning under a meagre crop of clover. The land was thin and of the same quality throughout. This spring, I applied to one-half of the field (4 acres) 25 two-horse wagon loads of the stable manure per acre, and cross-ploughed the whole field. Late in May, I planted corn, using on the part of the field not manured two barrels of salts per acre, one on the hill, one broad-cast. The entire field (8 acres) equals in appearance any I have ever seen, and there is not the slightest difference between the manure and salted portions.

On the other field I applied the salts alone, in manner and quantity as above stated, and although, the corn was not put in until the middle of June, the prospect of a good crop is flattering. My neighbors think it will turn out at least 8 barrels an acre.

In April last I planted an acre and a half in potatoes, to test the relative value of stable manure, guano and salts. I divided the land (which was in clover,) into three equal parts: to one part I put twenty one-horse cart-loads of stable manure, to another part I applied 300 pounds best Peruvian guano, mixed with an equal weight of plaster. I then ploughed, rolled and harrowed the whole piece and planted in rows, three feet apart, using on the rows of that part which was not guanoed or manured, one barrel of salts. The season has been very unfavorable, and the crop of early potatoes in this neighborhood quite scanty, but I find upon examination that the guano has done better than the manure, and the salts better than the guano.

I purchased the salts because I was pressed for time, and knew it could be hauled and applied with greater facility than any other manure, but I had very little faith in its virtue. The year before I bought 20 barrels from Mr. \* \* \* \*, which I applied according to directions on 10 acres of corn, without deriving any benefit therefrom. Mr. \* \* \* attributed the failure to the drouth, and it may be so, for I have known Mr. \* \* \* many years and believe him incapable of deception or fraud. Now I am perfectly satisfied that your salts (at a great saving of labor and expense) will produce as good corn and potatoes as any other manure. As to its durability, and its action on other crops, I can say nothing at present, but if my life is spared, I hope



in time to give you the result of my experience on these points. Very respectfully, yours,

WM. MOSHER.

P. S. I hauled the stable-manure which I put on my corn ground from Baltimore. It cost me one dollar a load there, and I think the expense of hauling is equal to \$2 more.

|  |       |
|--|-------|
| Four acres 25 loads each, 100 loads at \$3,  | 300   |
| “ 8 bbls. salts, at \$3, \$24, hauling, \$2, | 26    |
| In favor of the Salts,                       | \$274 |

ELKIDGE, August 20, 1850.

Messrs. Kettlewell & Davison:

Dear Sirs—In answer to your inquiries of my experience of your Renovator, I feel glad to state that I have used it, last fall, on my wheat crop. I ploughed up a piece of poor land some spots were entirely bare of any vegetable matter at all. Broadcast the salts at the rate of one barrel per acre, harrowed the salts in, and then sowed my wheat and harrowed it in also. I made a fine crop of wheat from the one barrel. I am sure if I had used two barrels to the acre I should have made a very heavy crop. Then the middle of the piece of land, sowed in wheat, I left stand without salts. On that land there was no wheat. This spring I used seven barrels of your most excellent salts on four acres of as poor land as can be found any where. I am sure that the land would not have brought one barrel per acre, and now I think it is good for six barrels. I ploughed up the land this spring, sowed the salts on, one barrel per acre, then put on a harrow and harrowed the land well. Laid off for corn, dropt the corn first, then put in each hill, one tablespoonful of the salts measured in the spoon and spread over the corn. No one would have expected such a result, who had never used them, for I am sure that I did not think that so small a quantity of any thing on such land could produce such corn. All of my neighbors were astonished when seeing the corn. I cannot speak in too high terms of your salts, and would recommend all persons to try them that have never used them. I will be in in the course of a week or two after more for my wheat crop this fall. Yours, respectfully,

SETH W. WARFIELD.

P. S. I forgot to state, that I used on much better land ten bushels of bone-dust, and the corn is not near as good as where I used the salts: and also used 1060 pounds of guano on three acres of land, but neither will pay me as well as the salts. I am sure had I not used the salts I should not have raised one bushel of wheat to the acre, or one barrel of corn, and all over that amount I shall give the credit to your salts.

S. W. W.

PRINCE GEORGE'S COUNTY, Md. Aug. 16th 1850.

GENTLEMEN:—Your favor of the 13th is before me, and it affords me great pleasure, notwithstanding I am very busy, to reply.

I used your Salts upon Corn, Tobacco, and Grass, and can assure you that the effect so far, as I can judge, is very much more than I expected. The effect upon my Grass was so evident, that it attracted the attention of all my neighbors.

But to come to the fair test: I planted one half of my potatoe crop with your Salts, and the other half with the best Peruvian Guano; the whole patch was manured alike with barn yard manure broadcast, and the Salts and Guano applied in the drill;

the result is, that the Salts will produce at least one third more than the Guano.

I am so much engaged at present, that I cannot give sufficient time to write you fully, but will do so soon. Excuse haste.

W. KIRKWOOD.  
Near WASHINGTON, D. C. Aug. 5th 1850.

Messrs. KETTLEWELL & DAVISON,

GENTLEMEN:—You will observe by your Books that I bought 4 bbls. of your Renovator on the 22nd. of April last, for the purpose of testing its qualities in various small ways, which I have practically done. The crops are now showing its effects decidedly, but none so much as the corn, which was broadcast and cultivated in at the first dressing.

Yours truly, J. BROOKS.

WASHINGTON, August 17th, 1850.

Messrs. KETTLEWELL & DAVISON.

GENTLEMEN:—Yours dated the 13th Inst. came to hand on the 15th and found me in the Country amidst Wheat, Oats, and Straw. Now I feel a deep interest in the success of the Agriculturist, for upon this alone as the foundation, rest all the prosperity and stability of the Government, and people of this Country, and especially of our good old State of Maryland.

In replying to your inquiries in regard to the "good or bad effects of the application of your Salts to my crops of this year, I can only state them as far as they have gone towards maturity. I first applied about one barrel per acre upon a poor field of about 7 acres, and sowed it down in oats, about the first week in April, and the result was a good crop; at least 50 per cent. better than they would have been without it, judging from quantity taken off the same land last year.

I applied about the same quantity per acre upon a part of my wheat field, and harrowing it in with the clover seed, where scarcely any appearance of wheat could be seen, and at Harvest it was nearly as good as the part of the field Guanoed last fall, and the clover is well set: this I attribute to the Salts.

I applied about the same quantity to Timothy with a very decided improvement in length of stalk and fullness of head.

I planted my Corn in a strong loam, using in the first eleven rows a handful of Poudrette in each hill, the same number of rows with a compost of Bone and Ashes equal parts, and eleven with your Salts, putting the same quantity in the hill. They are all growing finely, and bid fair to make a large yield; if there is any difference perceptible now, your Salts has it. What the final result may be, gathering the crop will only tell. It is not the tallest corn produces the most ears.

I should have stated that I left one row between each without any application, and the difference is considerable.

I also have applied it to potatoes, alternate rows of Guano, Poudrette, Bone, Ashes, and your Salts. They all look well: about the best in the neighborhood; the tops are green, thick and strong,—which will yield the most, I shall inform you about digging time.

I am pleased with the use of your Salts.

Respectfully Yours, JOHN M. DEXX.

Aug. 17th 1850.

Messrs. Kettlewell & Davison:—

Gentlemen—In reply to your enquiry in reference

to the result of my experiment with your Renovator, or Chemical Salts, I take great pleasure in saying that it was highly favorable and satisfactory. I have not yet threshed my grain, and cannot at present give details, but have seen enough in my own experience to speak of it as a most valuable manure. I conceive myself most amply repaid for my purchase of you, as will be evinced by a further order when the season arrives. I can give you no stronger testimony of my faith in its "renovating" qualities.

Respectfully your friend,  
ISAAC C. ANDERSON.

HAREWOOD, BALT. Co. Md. Aug 19th, 1850.

Messrs. Kettlwell & Davison:—

Gentlemen—Your note of the 13th Inst. requesting me to state the results whether favorable or unfavorable, of my experiment with your "Agricultural Salts" came duly to hand.

The 20 bbls. of Salts purchased of you were applied to a twenty-five acre field for corn—the quality was only medium, having been worked down by a succession of crops. Upon part of this land which was broken up last November, and which consequently needed stirring to make it fine, I had the salts ploughed in with one horse plows—on the rest of the piece, ploughed this spring with heavy two horse plows—On the whole of the piece the salts was applied broadcast, at the rate of 400 lbs. to the acre. I entertain no preference for either of these ways over the other, there being no difference in the growth of the corn.

The remainder of the field was heavily covered with manure from the stable and from the hog and cow pens, and that part of it immediately alongside of where the salts were applied, was well dressed with woodpile earth and ashes—the whole plowed in to the depth of eight inches and well harrowed—The field thus prepared, the laying off and planting commenced, and was executed in good style, from the 19th to the 25th of May. The result upon the whole field is a uniformly good crop; and I think no man could tell from the growth of the corn, where the salts was applied and where the manure: I apprehend there is no perceptible difference.

I decidedly like your salts, and consider it a cheap manure, and efficacious, considerably beyond remuneration—its application is easy and rapid—It is my intention to try it upon my wheat this fall, and only hope it may act as well upon that as upon my corn crop.

Very Respectfully Yours,

R. H. MERIWEATHER.

EXLINGTON FARM, Aug. 16, 1850.

Messrs. Kettlwell & Davison:

Gentlemen—Your favor of yesterday making inquiries concerning the Agricultural Salts you prepared and sold me this spring, I shall answer concisely and honestly, so far as I have been able to arrive at a satisfactory conclusion. I applied it at the rate of one barrel per acre on one piece of my wheat on the 5th of April, the land hilly, and gravelly, and poor, wheat looking very badly. The land had been well manured for corn the year before. From this application there was seen at harvest not any perceptible benefit. The clover, however, looks remarkably fine. It was very poor land, though, as remarked before, had been well manured for corn, which yielded only a 4 barrel to the acre crop on that piece of ground. The next day after we sowed the Renovator we had snow three inches

deep, which melted very fast, and we have had an unusually wet season.

On the 16th April, I sowed at same rate on five acres of stiff poor, stony land, lying on the north of a hill-side. Here a marked effect was observed on the wheat and young clover—this land was poor and neglected, yet the wheat was an average crop, no wheat yielding largely with us this year. It well paid on this piece of ground.

**Third Experiment.**—About one bushel on quarter of an acre of lawn was applied, and the grass was very indifferent, quite an eye-sore, where each year ashes, plaster, and other manuring had been applied to improve the grass. The day the fertilizer was applied a fine rain followed, and in ten days the grass was mown; upon the second mowing, the lawn presented a smooth, well set, velvety turf.

**Fourth Experiment.**—Dropt in each hill of five acres of corn, half a handful of the Renovator; corn looks very promising. In the middle of the piece of ground 12 rows were left without any of the Renovator. From the time the corn came up till now, the difference in color and size was so great as to be remarkable as far as the eye could reach. There is not now quite so much difference perceptible, but I think there are more and larger shoots on the manured than on the unmanured part.

These are all the facts coming under my experience in the use of it.

I am, gentlemen, yours, respectfully,

W. W. W. BOWIE.

AUGUST 2, 1850.

Messrs. Kettlwell & Davison:

Sirs—We have tried your Agricultural Salts alongside of \* \* \* \* \* upon corn in the hill, and sowed up the furrows. The result of our experiments has rather been in favor of yours. My father not perceiving any difference, while upon my land, yours have surpassed \* \* \* \* \* considerably in the hill, and equally as good, if not better, put on in the other manner. We have concluded to take from eighty to one hundred barrels.

WM. J. SUDLER.

N. B. Address your letter to Sudlersville, Queen Anne's county, Md.

W. J. S.

PRINCIPIO, Cecil Co. July 21, 1850.

John Kettlwell, Esq.

My Dear Sir—It has long been my wish that some reliable and enterprising gentlemen would enter into the manufacture or preparation of Chemical Salts, that would supersede the use of guano; an article, in the purchase of which, the farmer is continually subject to imposition, from the fact that a speculation is uniformly entered into by the dealers at about the season when it is well known the farmer must have it for his crops. And, further, his great liability of having an inferior article sold him.

I sowed your Renovator, broad-cast, at the rate of one barrel to the acre, on all my corn ground the last spring—the result thus far has been very satisfactory indeed. The corn grew off luxuriantly from the start, and, notwithstanding the severe drought, it has not suffered, and the promise for the ultimate crop being heavy, is good. On one field that has not been ploughed for 25 years, and on which no other manure than the bbl. of Renovator to the acre has been applied, the corn though not so tall, has maintained a fine dark green color, and if the season is fair, it promises a very good crop.

My own opinion is, that if I desired a speedy improvement on a poor field, I would apply  $1\frac{1}{2}$  to 2 bbls. per acre. On improved fields one bbl. appears to me to be sufficient.

Sincerely and truly, yours,

HY. S. STITES.

If you could send my 40 bbls. up this week I would be glad to have it.

H. S. S.

*Messrs. Kettlewell & Davison, Baltimore.*

*Gentlemen*—After preparing the ground for wheat in the usual way, and putting the grain in with one of Pennoek's Drills, we then applied your Renovator, at the rate of from one to two bbls. to the acre, according to the nature of the ground. This is not, in my opinion, the best mode of application, and, in future, we shall harrow it before seeding.

I presume my order for twenty or more barrels this fall will be a sufficient guarantee of my confidence of its utility.

Very respectfully, your obedient servant,

THOS. LUCAS.

ELVERTON, Balt. Co., Aug. 21, 1850.

ELKBRIDGE, August 23d, 1850.

*Dear Sirs*—According to your request to give you a statement of the action of your Agricultural Salts on my land, I would mention that in the month of February last I applied as a top-dressing one barrel of the Salts to the acre on land of tolerable fertility, and I am satisfied that it accelerated the maturity of the grain, thereby saving it from the rust, and the straw was as vigorous, and the grain as plump as could be desired. The wheat was sown very late on corn ground, and ripened sooner than a fallow adjoining, sown at least two weeks sooner, which I attribute to the action of your Salts.

Yours, very respectfully,

A. L. MACKEY.

To *Messrs. Kettlewell & Davison.*

WARRENTON, Va. Aug. 16, 1850.

*Messrs. Kettlewell & Davison:*

*Dear Sirs*—Yours dated on the 15th instant, is duly received, requesting some information respecting your Chemical Salts, ordered last April. I received the Salts about 15th of April, and after getting my corn-land thoroughly ploughed and harrowed, I laid off the ground, four feet each way—I then had your Salts unpacked from barrels, and put out on a plank-floor, and thoroughly mashed all the lumps—then put back into the barrels and taken to the field, and by means of small baskets had a handful put in each hill where the ground was poorest. Some of the land was very thin indeed. I put about one barrel to the acre, after dropping a handful of Salts in each hill; I had the corn dropped on the Salts, and then covered. My corn came up well, and that where the Salts was put more particularly, and looked very well and grew much more luxuriant than that where there was no Salts. About the latter part of April and 1st of May, we had a dry spell of weather, which seemed to check the corn very much, and more particularly where the Salts was put, owing to that being planted in the lightest and porous chaffy ground. It was a piece of new pine land soil. We had a fine rain say about four weeks since, which seemed to bring about the corn very much. I think from what I can judge at this time, it has been of great benefit, and my impression is, that it will answer better for wheat and grass than corn, as it can better mix

with the earth. I expect to visit Baltimore this fall, and by that time will be able to judge farther of its good effects.

I shall probably want several tons more. I have ordered 10 tons of guano for this fall. Will you please inform me what quantity of bone-dust is necessary to an acre of ground which is not of the poorest, but such land as may be called third quality, and has a covering of light grass; also the price of the best bone-dust. I have some notion of making a trial of bone-dust, guano and chemical salts, to see which is the most lasting and best manure. You can drop me a line on this subject at your leisure, and oblige yours, &c.

GEO. E. YEATMAN.

EASTON, August 19, 1850.

*Gentlemen*—In conformity with the request contained in your letter of the 13th, I propose to give you all the information in my possession relative to the action of your Salts.

The field selected for experiment contains 29 acres, on seven of which I applied the Salts at the rate of two bbls. per acre, sowed by a careful hand immediately after seeding wheat, and harrowed it in with a heavy drag. This was the mode pursued in each experiment. On another seven acres I sowed them at the rate of  $1\frac{1}{2}$  bbls. to the acre; on the next seven a dressing of compost was given, composed of marsh and ashes, in the proportion of three of the former to one of the latter, at the rate of 200 bushels to the acre, and on one side, in front of the Salts, a strip of 20 feet in width, left out unmanured. I also left out a space sixteen feet wide in the centre of the first seven acres, to which no application of manure was made. On one-half of the remaining acre I applied 125 lbs. guano intimately mixed with plaster and ploughed in, and on the other half one bbl. of your Salts. The wheat came up well, and though rather backward in the Spring, grew off finely, and promised a very fair crop, but it was smitten by rust at the period the grain was forming, and with the exception of the half acre guanoed was not worth cutting. I shall not thresh a head of it.

The best growth of straw was on the half acre just mentioned. Between the application of the Salts and the compost but little difference could be perceived—if any, in favor of the latter. During the spring, at different periods, I took two of our most experienced farmers to see the wheat, and walked them over the cut of seven acres, in the centre of which no manure had been applied, without other remark than a request to point out any difference they might detect in the appearance of the wheat—they each paused at that particular spot, and remarked that the wheat was not so good on those rows. I had noted the difference myself, and was anxious to know if it would be observed by persons unacquainted with the experiment. On the other strip, left unmanured, the difference was still more striking. On a small space the Salts were applied at the rate of four barrels per acre, and here its effects were beautifully exhibited in a most luxuriant growth. Indeed, the difference between this spot and that where two bbls. were applied was much greater than existed between the latter and the unmanured portion, so that I conclude that the Salts contain highly fertilizing materials, but that the quantity generally applied ( $1\frac{1}{2}$  to 2 barrels) is too small.

The land on which these experiments were tried

is a heavy clay, known with us as "white oak" soil; the greater part resting on a sub-soil of red clay. It is considered our best wheat land, and when last in cultivation, produced 25 bushels per acre after corn. I regret, exceedingly, that the result of my experiments will furnish you with no positive information relative to the value of the Salts, for from the growth of straw, nothing can be inferred with certainty. The clover looks remarkably well on every part of the field, and should any thing occur in its growth worthy of note, I will not fail to communicate it if my life is spared. I am very glad to learn that you are making arrangements to have the soil analyzed at small expense. When your arrangements are completed be good enough to let me know. Enclosed, I send two small samples of wheat, No. 1, is from the land dressed with guano; No. 2, from that where the Salts was applied. In the hope that you will pardon this hurried scrawl, and that I shall have the pleasure of seeing you at the Cattle Show this fall if not before, I am, very respectfully, yours truly,

H. E. BATEMAN.

Messrs. Kettlewell & Davison.

MILLINGTON, Aug. 19, 1850.

Messrs. Kettlewell & Davison:

Gentlemen—Your enquiry touching the mode and manner of application, and the benefit I have derived up to this period, from the use of your Agricultural Salts, as specified in your communication of the 12th of the present month, was received here by the due course of the mail; the Salts were applied to the hill just before planting the corn, at the rate of one large table spoonful, or one hundred and fifty pounds to the acre. Just previous to flushing the land for the crop, I directed, and had spread, 50 bushels of Baltimore county lime to the acre, from the kilns of Messrs. Griscome & Burroughs, which has a high reputation for its beauty, strength and properties as a renovator of worn-out lands. I have this day carefully examined the stock and ear as it is now standing; the stock of the corn where the salts were applied does not appear to be any larger than that where no Salts were used (on the same quality of land,) it will be difficult to determine what advantages are to be realised until such period as that of blading and cutting the tops is accomplished. I find on the other hand what may not be obtained by the Salts in regard to the size of stock will be fully realized in the ear, as it is decidedly larger than that where no application was made. I remembered, when too late, to retrieve what had already been done, that you cautioned me against fresh spread caustic lime, as it might prove highly prejudicial to the action of the Salts.

In great haste, I remain yours, very respectfully,  
THO. WALKER.

BALTIMORE, Aug. 13, 1850.

Messrs. Kettlewell & Davison:

My Dear Sirs—I have been selling your Chemical Salts for the last year, and I can say wherever I have sold it to the Farmers it gives general satisfaction—so they have reported to me.

Your obedient servant,

ARTHUR McCOURT.

BALT. Co. Aug. 24th, 1850.

Messrs. Kettlewell & Davison:—

Dear Sirs—In answer to your note of this date

respecting the action of your Agricultural Salts purchased of you the last spring, I have to say that I put on a field of 12 acres of oats, two bbls. to the acre, and on another of 25 acres 1 bbl. to the acre, and seeded both with clover. The oats were a fair crop for the season, and the clover looks extremely well, both fields I considered worn out, and I had but little hopes of making half a crop, and my opinion is that I would not have made more than one half the crop I had, had I not used the salts. I am of the opinion that 2 bbls. to the acre is worth (cost considered,) twice as much as one bbl.—The Salts fully come up to my expectations.

Yours truly,

J. CROSBY.

"MEADOWS," Balt. co., Aug. 24th, 1850.

Messrs. Kettlewell & Davison,

Dear Sirs:—Your letter just handed me requesting a statement of the results of your "Agricultural Salts," also my mode of application: I take pleasure in answering.

Two pieces of ground, seeded August 20th, 1849, which had not been in cultivation by me for upwards of twenty years, and neither of which had ever had any manure of any kind on them, I had cleared of stones, &c. and by much trouble had them put in condition for a crop—one piece of three acres for Timothy, and one piece of two and a half acres for Timothy and Turnips; on this last mentioned piece, I had one land ten feet wide staked off through what was deemed the poorest part of it; the rest of the piece was well manured with perfectly decomposed manure from the barn yard; I then had one other land staked off, ten feet wide, on the upper part of the piece; my lot as you will perceive is now composed of five parts as by figure, on No. 1, 2 and 3, in

|   |   |   |
|---|---|---|
| 1 | 2 | 3 |
|---|---|---|

addition to the manure I had the Salts put on at the rate of  $1\frac{1}{2}$  barrels to the acre, on No. 4, there was nothing but the manure, on No. 5, I put 75 lbs. of the Salts, equal to three barrels to the acre; the season was favorable, the Turnips a fine crop; No. 4 was behind all the rest, and the Turnips smaller. On No. 5, the Turnips were equal to any part of the field. The conclusion I have come to is this: that if an acre of the poorest land I have, is properly cleaned, and perfectly comminuted, that three barrels of the Salts will give, with a good season, a fine crop of Turnips; and the ensuing harvest give, as it did to me this year, a fine crop of Timothy—say 2500 lbs. to the acre.

My second lot of three acres was so poor it had never produced me anything, through this piece of land was staked off ten feet wide, on which nothing was put, the Salts were put on the rest of the field at the rate of  $1\frac{1}{2}$  barrels to the acre; my manager thinks, and I have no doubt of it myself, that it yielded four tons of Timothy hay. The land on which there was no Salts was almost bare. On my Oats the effect of the Salts were very obvious, one land having no Salts on it, and running through the centre of the field, was not so high as those on either side by six inches, and did not stool so much, making the yield a third less. Although I have used it largely on my Corn, I am not prepared to say anything as to the result. You can use part or all of this communication as may suit your purpose.

The way in which I use the Salts is to plough



the ground, harrow, then sow the Salts and harrow it in. I am so satisfied of their efficacy in a favourable season, that I tell my neighbors, as I told you, they cannot fail to act, unless they are not made right.

Respectfully,  
ROBERT DORSEY, of Edward.

LAUREL FACTORY, July 29, 1849.

Mr. John Kettwell—Dear Sir: In reply to your communication, asking for my experience in the use of your Fertilizer, I have but time to say, that I have used it on grass, as a top dressing, and on corn, as an experiment, this spring, at the rate of 2 to 2½ barrels per acre, in both cases with as much effect, apparently, as where I used stable manure or ashes.

I am satisfied, so far, with the effects produced by it, and shall continue to apply it wherever I run short of my other manures.

Yours, very respectfully,  
H. CAPRON.

SILVER SPRING, July 22, 1849.

My dear Sir: I measured 3 acres of ground to make an experiment of the relative value of your renovating Salts, ashes and plaster, and Peruvian guano. I put five dollars worth of each on corn, giving a separate acre a broadcasting application of your manure—another acre the ashes—the third acre the guano. The soil of each acre is as near alike as can be. As yet, it is impossible to say which has the race. The guano run ahead at first, but now, I think, it is neck and neck with the salts; the ashes and plaster, at the beginning behind both, is running up. It is impossible to say which wins until I shuck out the corn. I would bet on the salts.

Your friend,  
F. P. BLAIR.

Dear Sir: I have no hesitation, on the contrary take great pleasure in affording you the result of my experiment of your Agricultural Renovating Salts for the improvement of land. My experience is unquestionably and decidedly favorable. I applied it upon five acres of poor land, (which I planted in corn,) both broadcast and in the hill, alongside of land which had been both limed and manured; and where your Renovator was used, I find the corn in every respect to be as good and flourishing, as it is upon better land that had been heavily manured upon a clover sod. I look upon your enterprise as highly important to the farming interests of the State, in thus affording them so cheap and valuable a manure, and can give no stronger evidence of my confidence in it, than by ordering five times the quantity I purchased of you last spring.

Very respectfully,  
Your friend and ob't serv't,  
JOHN. L. STANSBURY.

BALT. August 16th, 1849.

From a member of the Baltimore Bar.

BALTIMORE, July 18, 1849

Dear Sir: In redemption of my promise made to you in the spring, when I purchased a ton of your "Renovator," it gives me pleasure to state that my expectations from its use have been fully realized. As directed, I applied on each hill of the corn immediately after the same had been planted, a small handful, and upon one or two parts of the field, where the soil had been almost entirely washed off,

the "Renovator" at the rate of a barrel per acre, was sown broadcast and harrowed in before planting the corn. The corn where the "Renovator" has been used appears much better both in color and size, than where none has been used, though the land where none has been used is apparently much better than where the "Renovator" was used.

I consider your "Renovator" a valuable composition, and should my corn continue to improve as it has done, I shall be amply rewarded for the expense incurred. I shall certainly use some of your "Renovator" on my wheat this fall.

Yours &c.

HOWARD DISTRICT, August 17, 1849,

John Kettwell, Esq.—Dear Sir:

In reply to your favor now before me, I have to state, that having made a trial of your Fertilizer on potatoes and corn, I am much gratified with the result—being confident that where it has been applied, that the yield will be double, independent of leaving the ground in a much better state than it was preparatory to my applying it, and, from the experiment I have made, believe it to be one of the most valuable manures now known; and, as an evidence of my opinion of its fertilizing qualities, you will please send me as early as convenient, ten barrels, which I was on the point of ordering when your favor came to hand. Nothing new.

With respect your friend,  
PETER GORMAN.

BALTIMORE COUNTY, 1849.

Dear Sir: I have no reluctance to repeat to you what I stated, in a personal interview, a few days ago, that my experiment with your Agricultural Renovator, has met my entire expectations, and that I look upon it as an enterprise deeply interesting to the Agricultural interests of the State. It is cheap in price, and in applying it upon corn, in comparison with guano, my experience gives it the preference. I can give you no better evidence of my faith in its qualities as a fertilizer of the soil than in ordering, as I now do, five times the quantity I purchased from you in the spring. That time will confirm your opinion that it will give continued improvement to the land, I have an equal confidence.

Yours, respectfully,  
C. S. STANSBURY.

To Messrs. Kettwell & Davison:

Gentlemen—In reply to your enquiry, how the experiment I made of your chemical Renovator resulted, I take pleasure in saying, far beyond my expectations. I sowed it broadcast, a barrel to the acre, upon poor land, and upon an old sod that had not been ploughed for some years, and planted my corn upon the 12th of May. I repeat, the land was poor; but my corn, thus far, in appearance, has not only astonished myself, but promises a yield which has surprised all of the many who have seen it, the quality of the land taken into consideration; indeed, I know of none in my neighborhood that is better, without any regard to soil. It is scarcely necessary to say, from this demonstration—which I should like every farmer in the State to see—that my confidence in the fertilizing quality of your salts is stronger than in any manure I have ever tried.

Truly your friend,  
JOHN H. KAUFMAN.

Baltimore, August 27, 1849.

Doct. Wm. S. Morton, of Cumberland county, who did not receive ten tons of our Renovator in time to test it upon his Pea crop, writes thus in reference to our plaister. "In your enterprise you have abundant cause of self-gratulation, from the fact, that you have emphatically entitled yourselves to rank among friends of the farmers, by the effectual arrangements which you have made to supply Plaister, incomparably superior both in quality, and the neatness and security with which it is put up, to any thing which we in this region have ever before witnessed."

Our Renovator and Plaister can be delivered at Norfolk, Petersburg, Richmond and Frederick, Va. at about 12½ cents per bbl. freight.

#### UNFAVORABLE REPORTS.

We have one word to say in regard to the following failures. They could not be authenticated by names of more intelligence, honor, or better capacity of judgment.

We publish both sides of the question, because we feel the magnitude of the enterprise we have undertaken; and in its development we are searchers after *truth and improvement*. We ask judgement, and give the testimony complete. We have published every unfavorable report except one from Geo. Forbes, Esq., which was received too late for press. We now ask the intelligent farmer, if the experiment was of Lime, of Ashes, of Guano, or Marl, embracing the same diversity of soil, and extent of country; to say nothing of the various modes of farming; would either of these manures presented a more uniform or successful result? Upon this point we ask reflection, and a considerate judgement. We again repeat what we have said elsewhere that, the farmer in looking for the result of our Renovator must not look at the stalk of the Corn or the straw of the Grain to find its value, but to the ear of the one, and the grain of the other.

August 23, 1850.

*Messrs. Kettlewell & Davison:*

*Gentlemen*—Your favor of 12th inst., I did not receive in time to enable me to comply with your request. The result of the experiments I have made with your Agricultural Salts, I regret to state have not been as favorable as I expected. I applied last fall on 7 acres of Fallow, eight bbls. of Salts raked in with the wheat; the crop was considerably better than I have taken from the same land after a crop of Corn; whether the improvement in the crop was caused by the Salts or the difference in the cultivation of the land, I am not able to say. I used some as a top-dressing in January, applying rather more than a bbl. per acre; it had not the least effect on the Wheat; the young Clover is also much inferior to that on similar soil on which I used about 10 bushels of Bone Dust per acre. The land on which I used about 200 lbs. Guano, produced me more straw and about one sixth more grain than I got from the land which had been top-dressed with the Salts. I tried it also on Corn planted in a piece of swamp land, applying about a handfull to the hill when planted; the corn came up quick and looked well for a while, the heavy rains in May and June

flooded the land, and the Corn was much injured and will produce not more than half of a crop; I have no doubt much of the Salts was washed away from the hill; under those circumstances I shall not consider this as a fair test of the virtue of the Salts. Should I again use your Salts for Wheat I will prefer raking it in when the Wheat is seeded. In great haste,

Yours respectfully,

JOHN HAMILTON.

Easton, August 16, 1850.

*Messrs. Kettlewell & Davison:*

*Gentlemen*—I am very sorry that it is not in my power to give an accurate account of practical results from the application of your manure. The field, to portions of which the application was made, is, unfortunately, so cut up, with irregular ditches, that I could not find in it any one portion having parallel sides.

It was my intention to have applied it in regular strips of such width, that a row of shocks could have been made in each, and I could thus have compared the products from equal quantities of land, but the reason just stated prevented me from effecting my design with that accuracy which would be conclusive as to what Mr \*\*\*\*\* would call "a good practical result."

When I applied it at the rate of one barrel to the acre, upon the fresh ground immediately after ploughing in the wheat, there was a slight difference perceptible to the eye.

Where I applied it, ploughed in with the wheat at the same rate, the crop was light, but evidently owing to the bad condition of the land, being very low, and overrun with blue-grass. On very light and thin land, when the rate of application was a little under two barrels, there seemed to be a slight improvement in growth, but I could perceive no difference in favor of harrowing it in after the plough. This fact is, no doubt, owing to the frequent heavy rains which soon followed, and carried the soluble portions into the well pulverized soil. I should say on the whole, judging by appearances, (a very unsafe criterion either way,) that in my present crop of wheat, I have not been benefitted to the amount of the outlay.

Had I found a single rectangular cut in my field, I should certainly have given you, as I promised, the accurate result in acres, bushels and pounds. Your idea about analysis is a good one, and with persevering caution, practical benefit will no doubt arise to yourself and others,

Very respectfully, yours,

THOS. R. HOLLYDAY.

LANGFORD FARM, Kent Co. Aug. 19, 1850.

*Messrs. Kettlewell & Davison.*

*Dear Sirs*—In answer to your enquiry respecting the action of the Agricultural Salts on my soil, I have only to say, that I have not as yet discovered any benefit whatever resulting from the use of them.

Respectfully, Yours, &c.

D. JESSOP.

LEONARD TOWN, Aug. 21, 1850.

*Gentlemen*—I received your note of the 13th inst. yesterday, asking an account of the result of my application of your Agricultural Salts made by me on my farm.

I am sorry that I cannot give you a favorable report thereof, as well on account of your interest as of my own. But so far as my experiment went, I

am bound to disapprove its use. My application of it was on fallow, which had been limed about six years ago with one hundred bushels of shell lime to the acre. I applied on it a barrel of your Salts to the acre. The land was ploughed in August and September, 1849, and was in clover, which was turned under.

After putting in the wheat with the plough, I applied the Salts, and run the harrow over the land, when I thought the work well done.

I have not threshed out my wheat yet, and cannot therefore say its yield, but the growth was small and so also the head.

One wheat land of the whole field of 18 acres was left undressed with the Salts, and had not sticks been planted to designate it, none could ever have pointed it out. There was certainly no improvement where the Salts were applied.

Your obedient servant,

G. COMBS.

Messrs. Kettlewell & Davison, Baltimore.

## QUARTERLY MEETING OF THE Maryland State Agricultural Society.

August 7, 1850.

The President of the Society being absent, on motion, G. S. HOLLIDAY, Esq., V. P. for Kent Co., was called to the Chair.

The following letter and accompanying pamphlet from His Excellency, P. F. THOMAS, Governor of Maryland, was presented to the meeting and read:

STATE DEPARTMENT,  
Annapolis, Md., 24th July, 1850.

SIR:—I have received a circular letter from the Executive Committee of the National Institute at Washington, of which the one on the last page of the pamphlet herewith sent, is a copy, the object of which is fully detailed in the pamphlet. To enable our citizens to avail of the benefits thereby, I have deemed it proper to address you as the President of your society, that you may take such action therein as you shall deem right and proper—of all of which you will be pleased to inform me.

I am, very respectfully,

Your ob't servant, PHILIP F. THOMAS.

To the President of the Maryland Agricultural Society, Baltimore.

The Circular Letter of the National Institute, to which reference is made by the Governor, was then read, the object of which is, the appointment of local committees from the various industrial associations in the U. States to correspond with the Central Authority appointed by the National Institute, at Washington, relative to the selection of such articles as may be deemed worthy of exhibition at the World's Industrial Exhibition, to be held in London in May, 1851—of which Central Authority or Committee, His Excellency Millard Fillmore, is Chairman, and Prof. Walter R. Johnson, Cor. Sec.

Mr. Dobbin, of Howard District, offered the following resolution, which was concurred in:

*Resolved*, That the objects of the Exhibition be commended to the notice of the farmers of Maryland, and that such of them as need information upon the subject, are invited to inspect the documents received from the Governor at the Society's rooms.

The subject of sheep-killing dogs, became again a matter of anxious discussion by the board, and it was passed by with the unanimously expressed wish of all present, that some efficient action upon the

subject should be taken by the great body of the farmers of Maryland at the next annual meeting of the Society in October.

Mr. M. Goldsborough, of Talbot, offered the following resolution, which was concurred in:

*Resolved*, That the following additions be made to the Premium List for the Exhibition to be held in October next:

For the best Colt between 1 and 2 years old, \$5

" " " " under 1 year old, \$5

For the second best Jack, \$5

For the second best pair of Mules, \$5

The premium of \$15 "for the best Broadcasting and Drilling Machine," will be given for the best Drilling Machine, and a like premium for the best Broadcasting Machine.

Mr. Dobbin offered the following resolutions, which were unanimously adopted:

*Resolved*, That the suggestion of John Q. Hewlett, Esq., that the hay and straw needed by the Society, at the next Exhibition, might be supplied by the free donation of farmers resident near the city, meets with the decided approval of the Board; and the liberal manner in which he has himself seconded the suggestion by the gift of a load of hay and one of straw, merit the thanks of the Society.

*Resolved*, That farmers living in the neighborhood of Baltimore be invited to adopt the suggestion, and give notice to Mr. Sands, at the Society's Rooms, of the quantities they will respectively furnish.

A report from Mr. Jas. M'Neal, Jr., Treasurer, relative to the state of the finances, was then read. The report states that there is a balance in the hands of the Treasurer of \$83 92.

A call was then made for a Report from the Committee appointed at the last meeting of the Board to obtain funds from the citizens of Baltimore to pay for the necessary fixtures of the Society at its next Annual Exhibition.

The Chairman being absent from indisposition, Messrs. Reynolds and Luckett, from the Committee, reported that no progress had been made therein. A meeting had been held, by appointment of the Chairman, but a quorum was not present—and that in consequence of the continued sickness of Mr. Kettlewell, since that meeting, no further action had been taken upon the subject.

Mr. Luckett moved that a new committee be appointed—which was dissented from.

Mr. Worthington moved that the original committee be directed to proceed forthwith in the discharge of the duty assigned them—and in the event of the continued indisposition of the Chairman, that they appoint a Chairman pro tem.—which was concurred in.

The Secretary presented a letter from Mr. Matthew M'Keever, of Winchester, Va., dated 23d July, notifying the Society that in accordance with the resolution adopted at the last annual meeting [see proceedings, page 154, vol. 5, of American Farmer] he wishes to "offer a challenge for the best lever or sweep horse power, and the best thrashing machine and the best separator,"—which was read and ordered to be entered on the minutes.

On motion of Mr. J. N. Goldsborough, of Talbot, it was ordered that a committee consisting of the President and Secretaries and two members from the Eastern Shore, be appointed to make arrangements for the transportation of stock, &c. to the next exhibition. The Chair appointed Messrs. Jas. T. Earle, of Q. Anne's, and William D. Jones, of Somerset. Adjourned to annual meeting, 22d Oct.

## NEW STAND.

**H**AVING taken a large and commodious Warehouse fronting on No. 57 CHEAPSIDE AND CALVERT STS., a few doors North of Pratt street, we respectfully invite our friends and the public generally to call and examine our stock of AGRICULTURAL IMPLEMENTS, which, for material and workmanship, are not surpassed by any in the city, embracing in part, our new and improved FANNING MILL, which received the first premium over a number of other mills at the late Cattle Show held at Easton, Talbot county. This mill comprises all the late improvements for removing Cheat, Cockle, and all varieties of weed seeds and filth from the wheat, whilst at the same time it is so constructed as to prevent any of the good grain from escaping with the offal. It is built in the most substantial and workmanlike manner with so little complication that it may be placed in the hands of the most careless negro without fear of injuring or getting out of order. Price \$25 and \$30.

**PLOUGHS** of every variety kept constantly on hand, among which are to be found Moore and Chamberlain's Premium Del. plough; the Empire; Minor and Horton; Eagle; Woodcock; Wiley; Davis; Chenoworth; Wiman's self-sharpening, and a variety of others, which with their castings we are always prepared to furnish on the most reasonable terms.

**HORSE POWERS AND THRESHERS** of the most modern construction—combining all the late improvements of the day. They are all of our own manufacture; Baltimore built, and put up in the most substantial and durable manner, at the same time presenting a degree of neatness seldom equalled in this most useful of all agricultural labour saving machinery. Price of Horse Power and Thresher complete \$135.

All of the above named articles can be had at our new warehouse, No. 57 Calvert and Cheapside streets near Pratt; or at the old stand, No. 97 North Paca street near Franklin.

Sept. 1. HAMBLETON & DIDIER.

## NOTICE.

**W**E take this method of calling the attention of our friends and the public generally to the misrepresentation, made by one of our fellow Agricultural Implement manufacturers, Mr. Ezra Whitman, Jr., of the prices of the Moore and Chamberlain Delaware Premium ploughs, as published in the list of prices of his late catalogue. This Plough Mr. Whitman represents to the public as being sold at the following prices.

|         |           |        |
|---------|-----------|--------|
| No. 6   | - - - - - | \$6.00 |
| " 7     | - - - - - | 9.50   |
| " 7 1/2 | - - - - - | 15.00  |

Now why or wherefore, Mr. Whitman has published the above prices; whether through ignorance or a desire from the enormous prices represented, of keeping the farmers from giving this plough a trial we cannot imagine; yet when we consider that Mr. Whitman does not keep an assortment of the ploughs for sale; we ask ourselves why he wishes to publish the prices? If he does it with the intention of giving information to the agricultural community (in which light we have always viewed such catalogues) we then ask why not endeavour to give that information in such a manner as to leave a correct impression upon the public mind? Why impress the farmer with the belief that they will have to pay \$15.00 for the No. 7 1/2 Delaware plough, when it can be had of us, who are the sole agents in this city for \$8.50? Why make them believe that the No. 7 is worth \$9.50, when we sell it at \$8?

We would recall it to the Farmer's mind, that this is the plough which received the 1st premium for best construction and also for the best ploughing at the Agricultural Exhibition held last fall in the city of Baltimore, as well as in Montgomery county.

In order that the public may be rightly informed upon this subject, we subjoin a price list of the Premium Delaware Ploughs.

|         |                              |        |
|---------|------------------------------|--------|
| No. 0   | A light one horse plough     | \$5.00 |
| " 6     | " " two or heavy one horse " | 6.00   |
| " 6 1/2 | " " " " " "                  | 6.50   |
| " 7     | " " " " " "                  | 8.00   |
| " 7 1/2 | medium two " "               | 8.50   |
| " 8     | heavy " " "                  | 9.00   |
| " 9     | three " " "                  | 10.00  |
| " 11    | left hand two or three " "   | 10.00  |
|         | Sword or cutter additional   | 1.00   |
|         | Draught rod " "              | 1.50   |
|         | Points for each No.          | .35    |
|         | Share " "                    | .95    |

We respectfully invite the farmers to call and examine the above plough before purchasing.

HAMBLETON & DIDIER,

No. 57 Calvert and Cheapside sts. Also No. 97 N. Paca st., Baltimore.

**T**AYLOR'S Patent Hames for sale by HAMBLETON & DIDIER, 79 Paca st., Balt.

## Sinclair & Co's Warranted Threshing Machinery.

**T**HE Threshing Machinery made by the subscribers is on the same principle as those made by them during the last ten years, and the same that have given such general satisfaction to their customers. Improvements such as practical experience has suggested have been added, the cylinders, instead of being shrouded with sheet iron, are now newly-plated, which, with the addition of wrought iron bands, and braces, renders the cylinders excellent, both as regards effect and endurance. The axes, bearings and arrangement of the gearing, is more perfectly adjusted than formerly, rendering their threshing machinery equal, certainly not inferior by any in this country.

Prices, as follows:—

|                                     |                      |
|-------------------------------------|----------------------|
| Lever powers                        | \$100 and \$135      |
| Wrought iron Railway, lever powers, | 75, and \$100        |
| Threshers,                          | 35, 40, 50, and \$60 |
| Straw Separators,                   | 15, 18, and \$20     |
| Driving Bands,                      | \$10 each.           |

R. SINCLAIR, JR. & CO.

aug. 1 Manufacturers and Seedsmen, Baltimore.

## Sinclair & Co's Improved Chaffing and Separating Mills.

(See "Pictorial Farmer," page 14.)

**B**EING aware of the importance of keeping fully up with the advance of the times, has induced the subscribers to examine well relative to what is required by the farmer to facilitate his operations in getting crops to market at the earliest period and in finest condition.

The Fanning Mill being a machine of much importance, has claimed particular attention and has undergone valuable improvements, without increased complication or price, and so constructed that one passage of the grain (after chaffing) puts it in finer order than three with the ordinary Fan. By this improvement the cheat, cockle, small garlic, grit, &c. is entirely separated, dandel and large garlic almost entirely. The garlic, after a few months standing, becomes light, and then may (with the dandel) be blown over with the tailings, the wind being so guided and arranged that it has increased power and direct action on the riddles. We furnish Riddles, &c. for Wheat, Corn and Oats. If Riddles for Cloverseed are wanted, we will make a small additional charge. Price \$25, \$30 and \$35.

R. SINCLAIR, JR. & CO.

Aug 1 Manufacturers and Seedmen.



## GUANO.

**PERUVIAN and PATAGONIA GUANO**, late importation, and superior quality—for sale in lots to suit purchasers, by  
WM. ROBINSON,  
No. 4 Hollingsworth street, near Pratt St. wharf.  
Aug. 1. tf. Baltimore.

## GUANO!—GUANO!!

**THE** Subscribers have on hand full supplies of  
Peruvian Guano,  
Patagonian Guano, 1st and 2d quality,  
Ground Bone, very superior,  
Clover Seed,  
Buckwheat Seed,  
Turnip Seed,  
Ground Plaster,  
Kettiewell's Renovator, at manufacturers prices,  
Reynolds' Superior Corn Sheller,  
Salt, Fish, Tar, Molasses, Bacon, which they will sell at the lowest market prices, and give every attention to their proper shipment. Address,  
W. WHITELOCK & CO.  
131 Cor. Gay and High Streets, Baltimore.

## GUANO.

**PERUVIAN**, of the latest importations, per Kirkland & Jno. G. Coster. Also, Patagonian, No. 2 and 3, warranted equal to any in this city. Also, Ground Plaster in barrels.  
For sale by  
S. FENBY & BRO.  
a11 Corner Gay and Pratt street.

## GUANO!—GUANO!!

## NOTICE TO FARMERS AND PLANTERS.

**THE** undersigned have on hand a large supply of **PERUVIAN and PATAGONIAN GUANO**: which they offer for sale in quantities to suit, and at low prices.  
The "**PERUVIAN**," or No. 1 **Guano**, is all of direct importation, this year,—and its quality is not surpassed by any in the Country!!

Our "**PATAGONIAN**," or No. 2 **Guano**, is superior to any other importation in the market,—and for clayey lands, white oak or other soils, requiring the aid of Phosphates, is equal in value to some specimens of the Peruvian.—See *Dr. Higgins, State Chemist's Report*, pages 43, 72 and 73.

The following Certificate, furnished by an eminent Chemist of Baltimore, of our Patagonian Guano, shows at once its valuable properties.

To *P. Malcom & Co., Baltimore*:—I consider the specimen of Patagonian Guano, submitted by you for examination, to be one of the best I have ever seen, and compares very well with some specimens of Peruvian.  
D. STUART, M. D.  
77 Eutaw Street, Baltimore.

—This description can be obtained for nearly one-third less than the price of Peruvian!!

Our **Guano** is put up in barrels, and in strong substantial bags, weighing from 150 to 200 lbs. and we warrant it to be pure and unadulterated; each bag having been weighed and inspected by the "State Inspector," whose stamp is upon every bag. A liberal deduction made to clubs or parties purchasing large quantities. Farmers will do well to call upon us for purchasing.

We have also constantly on hand, **Bone Dust and ground Plaster**, in barrels.  
P. MALCOM & CO.  
Grain and Flour Warehouse, No. 1 Wood Street,  
141 Bowly's Wharf, South of Pratt Street.

**400 TONS PERUVIAN GUANO**,—GOVERNMENT IMPORTATION.—The subscriber has just received per Barque "Kirkland," direct from the China Islands, four hundred tons Peruvian Guano, which he offers up on reasonable terms in lots to suit purchasers. The quality of this guano is warranted No. 1. It is put up in heavy osanabro bags, made of the best materials, and marked by the Baltimore Inspector.

Imported by Samuel K. George, Baltimore 1850.  
Owing to the scarcity of this article, and the uncertainty of later arrivals, farmers wishing to supply themselves, will do well to make their engagements without delay.

FITZHUGH COYLE,  
National Agricultural Warehouse, Washington City.  
Aug 1—2t

## PRACTICE &amp; THEORY.

**THE** SUBSCRIBER having a thorough practical knowledge of the application of Machinery for Agricultural purposes, is therefore enabled to offer his fellow farmers, **THRASHING MACHINES** of various sizes, constructed and built at his own shops, which are unequalled for mechanical principle, durability and cheapness. I am desirous that my Machines should go at once into farmers' hands at the cheapest possible rates, request therefore to know the amount of work wanted per day and the machine and price will be made to suit. Machines delivered in Baltimore, or on the Balt. & Ohio Rail-road. Address,  
JAS. C. ATLEE.  
41 New Windsor, Carroll Co. Md.



## A. G. HOTT, AGRICULTURAL IMPLEMENT MANUFACTURER.

No. 36 Eavor street, near the Belair Market, Baltimore. Plows, Cultivators, Harrows, Wheat Fans, Straw Cutters, Grain Cradles, and all of the best and most approved Agricultural Implements in use.  
Agent for the celebrated N. York Wiley and Empire Iron Castings.  
mar 1

**HORSE POWERS, THRESHERS, SHELLERS** of a variety of patterns, **CORN & COB CRUSHERS**, portable **GRIST MILLS and MILL WORK**, all warranted, and at the lowest prices, manufactured and for sale by

MARRAY & CLARK,  
Millwrights and Machinists, No. 21 York street, near Light street, Baltimore.

We refer to former advertisements in the "*Farmer*," for the names of farmers, planters and others, who have purchased our implements and machinery, and who have borne testimony as to their value.  
Aug. 1. tf.

## NEW OXFORDSHIRE LONG WOOLED BUCKS FOR SALE.

**THE** Subscriber has about 40 **LONG WOOLED BUCKS**, which he will dispose of at any time when called for.—This flock (which has been bred from some of the best ever imported), is so well known they need no further description than to say, they continue to yield their very heavy fleeces from 9 to 16 lbs. of washed wool, and when full fitted, will weigh upwards of 300 lbs. alive. This breed of sheep are remarkably healthy and very prolific, and make a very profitable cross with the various breeds of this country, doubling the weight of wool and mutton. The price will be from \$50 to \$75 for Bucks, and from \$25 to \$30 for Ewes, according to the quality of the sheep. Gentlemen are invited to call and examine for themselves, or communicate by mail. Direct to Delaware City, Del. 141 CLAYTON B. REYOLD.

## SOUTH DOWN SHEEP FOR SALE.

A very superior thorough bred buck, descended from Mr. E. H. Mann's stock. He is very large, 3 years old, in fine condition, and has clipped 8 lbs. of wool of excellent quality,—having bred to him for two seasons, he is therefore offered for sale. Also a yearling buck sired by the above. Forty five select South Down ewes having been bred to the above described buck, the subscriber can dispose of a number of ewes and buck lambs, and a few breeding ewes.

N. TILGHMAN GOLDSBOROUGH.  
Easton, Talbot Co. Md. 10th May. 1850. 141

## GROUND BONE.

The subscribers have commenced grinding, and will keep constantly on hand, **Ground Bone** of superior quality, being all fresh, gathered daily, from the various Market and Slaughter houses of this city—(an exclusive privilege of our own), and warranted free from Chemical, or any other process, or impurity, which has a tendency to diminish their Fertilizing qualities. Orders left with Messrs Geo. C. Collins & Denson, 83 Light-st Wharf, or at the Factory, opposite the outer Depot of the Baltimore and Ohio Rail Road, will meet with prompt attention. Price fifty-cents per Bushel.

P. S. Samples at the office of the American Farmer.

COLLINS & BULLOCK,  
Glue and Neats-Foot Oil Manufacturers,  
Columbia street.

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## BONE-DUST and POUDRETTE ESTABLISHMENT.

On Harris' Creek, at Canton, Baltimore.

**THOMAS BAYNES**, continues the manufacture of **POUDRETTE**, and is prepared to supply any orders for the same.—The article manufactured by him, will be found probably more valuable than any made in the Eastern cities. His **BONE-DUST** weighs from 55 to 60 lbs. to the bushel, and is as fine as any article sold in this market. Price of Bone Dust, 55 cents per bushel. Poudrette, \$1.13 per barrel. Persons sending their carts or wagons to the factory, can obtain the Poudrette at 90 cents per bushel.

Any orders left at the factory, or with Mr. S. SANDS, editor of the "*Farmer*," at the State Agricultural Society's Rooms, will receive immediate attention. Terms, cash.

## LIME.

**THE** subscribers are prepared to furnish Building and Agricultural Lime at the depot on the Back Basin, corner of Eden and Lancaster-sts., which will warrant to give satisfaction, it being burnt from pure Alum Lime Stone, equal to any found in the United States. Orders may be left with **WILLIAM ROBINSON**, No. 15 Hollingsworth-street, near Pratt.

W. FELL & ROBINSON, City Block.

## PENNOCK'S PATENT SEED AND GRAIN PLANTER.

*For Planting Wheat, Rye, Barley, Indian Corn, Oats, Beans, Peas, Ruta Bagas, Turnips, &c.*

This Machine operates equally well on all kinds of land, and is not injured by coming in contact with rocks, roots, &c. It will plant point rows, and all irregular shaped fields, without sowing any part twice over. With a saving of from 10 to 15 per cent. in labor; it will, with ease for two horses, plant from 10 to 12 acres per day of Wheat, Oats, Barley, and other small grains: and with one man and horse, it will readily plant from 15 to 20 acres per day of Indian Corn, Beans, Peas, Ruta Baga, &c.

It will save from 2 to 3 pecks of seed per acre, and yield from 15 to 20 per cent. more than the broad cast seeding, by distributing the grain uniformly at any desirable depth, and leaving a ridge of earth between the rows. The roots of the young plants are protected during the winter by the action of the frost and rain mouldering the earth upon them, instead of being thrown out and exposed as in broadcast. On this account the stalk is stronger and less subject to mildew, and is not so liable to injury by the fly.

The farmer is frequently prevented by rain from harrowing in his grain after it is sown, which harrowing is needless in seeding with this machine, as it completes the work at once.

### RECOMMENDATIONS.

"Previous to harvest we had 5 acres carefully measured with chain and compass by W. Pennington the Surveyor of the neighborhood, assisted by John Jones. The Surveyor was present when the wheat was cradled, and saw that each acre had its due share. It was put away in separate mows, and threshed separately, and the grain all measured.

No. 1 and 2.—Two acres of broadcast, surveyed together.—Two bushels of seed to the acre—Seventy-five shocks—55 bushels of wheat, or 27½ bushels to the acre.

No. 3.—One acre drilled, adjoining the above, the land, if any different, rather inferior; treated exactly alike—one bushel and one peck of seed to the acre—42 shocks, 35 bushels.

No. 4.—One acre drilled a little distant from No. 3, one bushel and one peck of seed, 43 shocks, 35 bushels.

No. 5.—One acre drilled a little distant from No. 4, one bushel and one peck of seed, 50 shocks, 40 bushels to the acre.

Here we see by the use of the drill alone, (the soil being in the same, or perhaps an inferior condition,) the crop was increased 7½ bushels per acre, and adding the amount saved, (3 pecks) make 8 bushels and 1 peck to the acre; and further, that the amount of straw to the drilled acre, with a smaller quantity of seed sown, increased 12 per cent., and the amount of grain on the same acre was increased more than 27 per cent.

The Drill used was invented by M. PENNOCK & SONS, of Kennet Square, Chester County, Pennsylvania. Our own convictions have been sufficiently strong upon the above experiment as to cause us to purchase a Drill, or as it should be called, a wheat and corn planter, for it plants either equally well, for our own use, with which we have put in this fall the entire field of wheat, containing about 40 acres.

Respectfully,

CHARLES NOBLE.

Philadelphia, 10th mo., 1844.

Lancaster Co., Pa., September 1846.

We, the undersigned, do hereby certify that we have used "Pennock's Patent Seed and Grain Planter," and take pleasure in stating, that we believe it to be the best machine for the purpose intended, that is now in operation; and that we can with confidence recommend it to the farming community as one of the most economical and perfect agricultural implements with which we are acquainted.

Henry Muselman,  
Abraham Weaver,  
John Muselman,  
David Miller,  
Daniel Krag,  
John Kachel,

Martin Herr, of Pequa.  
John Weaver,  
Joseph Weaver,  
George Morgan,  
John Greider,  
Benjamin Greider.

This may certify that I have had in use during the spring of the present year, one of S. & M. Pennock's Patent Seed and Grain Planters, and sowed out and planted corn with it,

to my entire satisfaction. I believe it to be one of the most perfect and useful farming implements ever invented, and shall in future use it exclusively in my operations of sowing and planting grain. The experience I have had convinces me that the machine is a great saver of time, seed and labor.

H. W. SNYDER.

Selin's Grove, Union Co., Pa., June 25, 1847.

This is to certify that we have used "Pennock's Seed and Grain Planter," and do state, that the wheat sown by it, on an inferior quality of land, is much better than that sown broadcast. Besides the great increase of yield and the saving of a half a bushel of seed per acre, we are convinced that the drilling system possesses many important advantages over the old broadcast method of seeding.

Abraham S. Mylin,  
John Seiser,  
Martin Herr,

Christopher Herr,  
Eudolph Herr,  
John Heller.

Lancaster County, September, 1846.

This is to certify, that I have been using "Pennock's Patent Seed and Grain Planter," for three years, and can recommend it to wheat growers as the best article of the kind ever introduced. I have had other drills in use but could not operate with them to my satisfaction. I do certify that the yield of grain sown with this drill is 50 per cent over the usual broadcast. And I would not part with my drill for five times the amount it cost if I could not get another.

B. GROFF.

In the year 1844 I purchased one of Smith's Drills for the sum of Twenty-five Dollars, which upon trial I found would not answer the purposes; and being fully convinced of the advantages of drilling over the broadcast system, I resolved to try another that professed to be an improvement, at the cost of \$50. This one proved but little better than the first. I then bought one of "Pennock's Patent Seed and Grain Planters," from Kennet Square, Chester County, Pa., for \$400, which I have used, and believe it to be the best machine that has been introduced. It plants all kinds of grain at any depth required, and operates equally well on rough and hilly as on level land. I would not part with it for \$200 if I could not get another.

ELIAS HERR.

Lancaster Co. Pa. September, 1847.

Dayton, Montgomery Co., Ohio.

S. & M. PENNOCK,

Nov. 27, 1847.

Gentlemen:—

Having the last year tested the merits of your Seed and Grain Planter, I certify that in addition to the saving of one peck of seed per acre, the yield was from three to eight bushels per acre more than that sown broadcast.

I also find that, by planting with your Machine the grain is much better protected against storms, and not so liable to be thrown out and killed by the winter. The experiment was so entirely satisfactory, that this season I have purchased one of your Machines, and with it put in my entire crop of wheat. I am yours obediently,

CYRUS HULL, Jr.

This is to certify that we have had and used on our farms for two years, "Pennock's Patent Seed and Grain Planter," and feel confident that it is one of the best Machines ever introduced.—The great advantages it possesses over other Machines are, that it is adapted to all kinds of land, and will sow fields of any irregular shape without seeding any part twice over; also all kinds of grain, at any depth wished. We also certify that the amount of grain raised by drilling over broadcast sowing, fully paid for our machines the first year, without counting the saving of the seed, which was a half bushel to the acre.

David Groff,

John Shenk,

Tobias Herr.

Lancaster Co., Pa., September, 1847.

To S. & M. PENNOCK:

This certifies that I had several acres of wheat put in with your Drill, in September of 1846.—Previous to harvesting it, I had one acre carefully measured with chain and compass by Jacob Diehl, and several others of the neighborhood. Several persons were present at the time the wheat was cradled, and saw that each had its due share. I had it carefully put in the barn and threshed separately, and the result was five and one eighth bushels in favor of Drilling.

Yours, truly,

PETER DIEHL.

New Oxford, Adams Co., Pa., Nov. 30, 1847.

Unionville, Chester Co., Pa. Feb. 28th. 1848.

I do hereby certify that I have used one of Pennock's Patent Drills for five years, and have put in from fifty to seventy acres of wheat every year since, and have never failed having a good crop. I think I can safely say, that I have realized from 30 to 50 per cent., or that it has averaged me from \$200 to \$400, and even \$500 a year, over the usual broadcast seeding. My land being low, I have lost greatly by the winter throwing the roots entirely out, which is wholly obviated by

drilling. I would not take \$500 for my Drill if I could not get another of the kind.

JOHN HUEY.

East Fullofield, Chester Co., Pa.

This is to certify that we have used Pennock's Patent Seed and Grain Planter, and consider it superior to all others on account of its simplicity and adaptation to all kinds of land, both even and hilly.

It sows equally well, all kinds of seed, at any depth wished. Many of these machines have paid over 100 per cent the first year.

Being convinced of the advantages of this machine over all others, we have purchased the patent right for nine counties in eastern Pennsylvania.

GEORGE W. LEE & CO.

Shirley, Va. November 5th, 1849.

To Messrs. S. & M. PENNOCK:

I think your Drill Machine is the most complete labor-saving machine I ever saw; it does the work of four harrows, twelve horses, and five good men, (one of them a good Seedman,) with only three horses and two smart boys. I am determined to have two Drills by next season if possible.

Most Respectfully, Yours, &c.,

HILL CARTER.

Mr. Carter informs us since harvesting his wheat crop this season, the only objection he has to the result of his experiments with our seed planter, is, that it made him a heavier harrow; "his drilled wheat was much larger," and he expressly orders a machine timely for this fall's seeding, and says he would not be without one on any consideration.

Reedsville, Mifflin Co. Pa. July 21, 1848.

Messrs. S. & M. PENNOCK:—

Gentlemen:—I have this day threshed and measured the wheat grown on one acre of land, one half of which was drilled in with one of your machines; the other half was sown broadcast and harrowed in in the usual manner. The result is as follows:—The half acre drilled, one and a fourth bushels of seed per acre, 13 shocks measured 12 bushels and 2 quarts. The half acre broadcast, one and three fourth bushels seed per acre, 8 shocks measured 7 bushels, 18 quarts. The quality of ground was exactly the same, and treated alike in every particular, previous to seeding. Difference on the half acre in favour of the drill, 4 bushels. Add one fourth bushel saved in seed, makes 4 and three fourths bush. more than on the broadcast seeding.

Yours truly, &c.

ABNER THOMPSON.

We the undersigned, were present, saw the grain measured, cut the grain, and assisted in threshing the same, and do hereby testify to the correctness of Mr. Thompson's statements.

James Reed,

William Steely,

D. C. Miller,

Alexander Reed,

H. G. Morris,

George Ashby,

The above machines are manufactured and kept constantly on hand at Watford, Loudon County, and Millcreek, Berkeley County, Virginia, where orders will be thankfully received, and also by

**S. & M. PENNOCK & CO.**

Aug. 1. 3d.

Kennel Square, Chester Co. Pa.



**C. H. DRURY, Hollingsworth street**  
corner of Pratt—Head of the Basin  
—having completed his establishment  
with Foundry connected, for the making  
his own Castings, is prepared to furnish  
all varieties of **AGRICULTURAL IMPLEMENTS** and  
**CASTINGS**, made to pattern of the best material.

The following is a list of **PLOWS** kept constantly on hand:  
Davis, of the different numbers, for wrought and cast shears,  
S. & M., Chenoweth, Wiley, 3 and 3 furrow, No. 0, Hill side,  
No. 1 and 3 Connecticut—Bench Improved or Posey Plow,  
with common Davis cast—Bench Improved or Posey Plow,  
with common Davis cast—Bench Improved or Posey Plow,  
shear—Corn Cultivators, plain and expanding—Tobacco do.—  
Wheat Fana—Corn shears with double hook—Old Vertical  
and Fana sheller—Harrow—superior Pennsylvania made  
Grain Cradles—Revolving Horse Rakes—Cylindrical straw  
Cutters, &c. &c. Horse Power **GRIST MILLS**, a very useful  
and saving article, and coming into general use. **HORSE**  
**POWER AND THRESHING MACHINES**, of these I  
need not say any thing, as wherever they have been in use any  
time, they are preferred to all others.

C. H. D. will this year make a smaller size Power & Thresher,  
(price of Power, \$100, Thresher, \$50, Band, \$10, or when  
taken together, complete, \$150 cash.) Persons in want of  
Implements made of the best material, and put together in the  
strongest and best manner to answer the purpose for which  
they are intended, are invited to call on the subscriber. Jel

**POUDRETTE.**

**POUDRETTE FROM THE LODI FAC-**  
**TORY**, constantly for sale, at 2½ by the single  
bbl., and 5 or more bbls., at \$12 per bbl., by

**WILLIAM CHILD,**

No. 78 South street, Bowly's Wharf. Aug 1 2t

## E. WHITMAN'S Agricultural Warehouse



AND

**SEED STORE,**

No. 55 Light street, Baltimore,

**W**ILL contain, this season, the largest stock of Improved **AGRICULTURAL IMPLEMENTS** ever offered for sale in this country, amongst which will be found

100 Whitman's Superior Wrought Iron Railway **HORSE POWERS**, which received the first premium at the last Fair of the Maryland Agricultural Society.

100 **LEVER or SWEEP POWERS**, among which will be found all the latest improvements; also, the Eddy or Taplin Power, which is portable, simple and durable, consisting of one wheel only.

200 Whitman's **THRESHERS**, which received the first premium, in Baltimore, in 1849. The cylinder of this Thresher, being all in one piece of iron, will last **100 YEARS**, in constant use. A great improvement has recently been made in the teeth or spikes, which makes it the most perfect machine now in use.

100 other **THRESHERS**, comprising various kinds and improvements.

7,000 **PLOUGHS**, consisting of every kind now in use.

500 Premium Cultivators, \$4, \$4½, \$5 and \$6.

500 " Grain Cradles, of approved kinds.

50 " Corn Planters, price, \$30.

100 " Seed Sowers, price, 10.

Grant's celebrated Fan Mills; prices from \$25 to \$40.

Bamborough's " " \$28, 31, \$32 and \$34.

Strong's, Rice's, Clinton, Boston and other Fans.

Improved Harrows, Straw Cutters, Corn Shellers, Corn and Cob Crushers, Fodder Cutters and Grinders, Ox Yokes, Dirt Scrapers, Churus, Scythes and Snaeths, Wheelbarrows, Root Pullers, Shovels, Spades, Hoes, Forks, Buckets, &c. &c.

Also, a general assortment of

**FIELD AND GARDEN SEEDS,**

Which are warranted to be fresh and genuine.

apl

E. WHITMAN, JR.

## CHICKERING'S PIANOS.

**T**HE Subscriber is Sole Agent in Baltimore, for the sale of **CHICKERING'S CELEBRATED IRON FRAMED GRAND AND SQUARE PIANO FORTES**, and is constantly receiving supplies from the factory in Boston, which are sold at the same prices as charged by Mr. Chickering.

Chickering's Pianos are unquestionably the best Instruments manufactured in the United States. In regard to superior quality of tone, touch, durability, and all the essential qualities of a Piano, they are admitted by the most eminent Pianists to be equal to Erard's, of Paris, or Broadwood's, of London.—Although there are several factories in Boston and New York of high reputation, Mr. Chickering undoubtedly stands at the head, possessing eminent talent, skill, untiring industry and experience of some 35 years as a manufacturer of pianos, with abundant means to enable him to carry out his plans in producing the very best instruments.

Orders from the country, entrusted to the subscriber, either for Pianos, Music, or any article in his line of business, will be faithfully executed.

Jy 16t

F. D. BENTEN,  
181 Baltimore street.



**AGENCY FOR THE PURCHASE AND SALE OF IMPROVED STOCK.**—Stock Cattle of the different breeds, Sheep, Swine, Poultry, &c. purchased to order and carefully shipped to any part of the United States—for which a reasonable commission will be charged.

All letters, post paid, will be promptly attended to. Address

**AARON CLEMENT,**  
Sept 1 Cedar st., above 9th, Philadelphia.

**AN OVERSEER'S PLACE IS WANTED** by an Agriculturist, who would carry out the wishes of his employer to the letter, and will make himself generally useful. Address, post paid, R. P. O., Beaufort, S. C. The best references can be given. Employment in Maryland would be preferred. Sept 1

**J. W. & E. REYNOLDS,**  
**FARMERS AND PLANTERS' AGENTS,**  
Light street Wharf, Baltimore.

**KEEP** constantly on hand a carefully selected stock of **FAMILY GROCERIES**, in order to furnish their customers at the lowest rate and on the best terms. They also furnish (on a credit of 9 months) Guano, Lime, Ashes and Salt, for agricultural purposes, at the lowest prices. Sept 1

**GROUND PLASTER.**

**THE** subscriber respectfully informs the Farmers and Planters that he is now receiving a large and selected lot of an extra quality of Lump Gypsum, direct from particular mines, (the purity of which he has had tested by various analyses) from which he is manufacturing a superior article of Ground Plaster, warranted pure, and each barrel of full weight and in good shipping order—marked with his own name. For sale on the most favorable terms.

**WM. A. DUNNINGTON,**  
Steam Plaster Mill, G. Hughes st., on the Basin.  
Orders received at **CAPT. ASA NEEDHAM'S STORE**, No. 104 Light street wharf. Sept 1

**DUTCHESS CO. PIGS.**—Several pairs of very superior Pigs, of this breed, of the same stock which sold at the last Cattle Show at Baltimore for \$50 per pair, will be offered for sale at the coming Fair, in Oct. **J. WILKINSON,**  
Sept 1 Mt. Airy Agr. Institute, Germantown, Pa.

**WATER RUNNING UP HILL.**

**BROWN & GATCHEL**, No. 307 Marketstreet, Philadelphia, Pa., is prepared to furnish all kinds of Double and Single Hydraulic Rams, Double and Single Pumps, Hydrants, Hose, Reservoirs, Baths, Sinks, Stop cocks, Lead, Cast and Wrought Iron, Cement and Glass Pipes, &c., at Factory prices. By having the description of a location, we can give the aggregate cost of all fixtures necessary to elevate to any Dwelling, Farm-house, Factory, or Village a constant stream of pure running water, any height or distance required. By having the necessary proportions of pipe and machinery, (which is very important in the various different locations), all can be packed up and sent any distance with directions so that any farmer or mechanic can erect and keep them in repair for years without further expense. The past patronage enables us to place the Water Ram within the reach of any farmer or mechanic, and in most instances much cheaper than an ordinary pump. We are also prepared to erect Machinery in any part of the United States. All work warranted to perform or no charge. Address the Firm as above, or so 1 **J. L. GATCHEL, Elton, Md.**

**AGRICULTURAL IMPLEMENTS.—LABOR SAVING MACHINERY.**—**GEORGE PAGE**, Mechanist & Manufacturer, Baltimore. West of Schroeder st. Baltimore, is now prepared to supply Agriculturists and all others in want of Agricultural and Labor-saving MACHINERY, with any thing in his line. He can furnish Portable Saw Mills to go by steam, horse or water power; Lumber Wheels; Horse Powers of various sizes, ranging in price from \$25 to \$200, and each simple, strong and powerful. His *Horse Power's Thrashing Machine*, he is prepared to supply at the low price of \$125 complete; the Thrashing Machines without the horse power, according to size, at \$30, 40, 65 and \$75; Improved Seed and Corn Planter Portable Tobacco Press; Portable Grist Mills complete, \$165

**DRILLS—DRILLS—DRILLS.**

**NOW** as the time of seeding is fast approaching we would remind the farmers that we have on hand a supply of **PENNOCK'S PATENT GRAIN DRILLS**. This article has stood the test and is no new thing, involving the farmer in expense with experimenting; wherever they have had a trial they have not failed to give satisfaction. They need no recommendation as they speak for themselves, and after years of trial are acknowledged to be surpassed by nothing of the kind ever offered to the public.

To be had at either of our establishments, No. 57 CALVERT AND CHEAPSIDE, or No. 97 N. FACA STREET, Balto.  
Sept 1. **HAMBLETON & DIER.**



**COTTINGHAM & WILLETT,**  
Manufacturers of Ploughs, Agricultural Implements, &c. near Pratt St. Wharf, fronting on Grant and Elliott streets, next door to Messrs. Dinsmore & Kyle, Baltimore, keep constantly on hand a general assortment, and are prepared to execute all orders for **AGRICULTURAL IMPLEMENTS & MACHINERY** at the shortest notice, and on as favorable terms as can be had in the city, having recently fitted up a factory in PRATT STREET, between Eddow and Paca streets, for the purpose, where they are prepared to manufacture every article in their line and can assure their friends and the public, that their work will be executed with faithfulness, and the materials of the best quality, and they flatter themselves that all articles sold by them, will favorably compare with any to be obtained elsewhere. The farmers and planters of Maryland and the neighboring States, may find it to their interest to call and examine their stock, and judge for themselves.

Among the machines they keep on hand, will be found Fitz's Improved Horse Power, with wrought shafts; and various other lever, stationary and Railway Powers, and Thrashers of various sizes and patterns—**PLOUGHS** of every variety—Fanning Mills of the most approved patterns—Harrows, Cultivators, Drills, Horse Rakes, Straw Cutters, Corn Shellers, Crushers, &c. &c.—Castings of every description. Repaired done with expedition and fidelity. Sept 1

**FOR SALE—A FARM** containing 100 ACRES of LAND, lying in Harford County, Md. 30 miles from Baltimore, and 1 1/2 miles N. E. of Ferryman's Depot, on the Baltimore and Philadelphia Railroad. One fourth of the property is heavily timbered with Oak and Hickory, the remaining is in a high state of cultivation.—The situation is one of the most healthy and pleasant in the country. It is finely watered by a constant stream, and improved with a tenant's house. Its proximity to Baltimore and Philadelphia by Railroad, (being only two hours travel from the former city) as also a pleasant neighborhood, renders it a delightful country residence. The convenience to the markets of the above cities, the kindness of the soil and easy tillage, recommends it to the Agriculturist. This property, which should be seen to be properly appreciated, will be sold low on application to **J. H. LEMMON.**

Sept 1—\* cor. of Baltimore and Poppleton sts., Balto.

**DUVALL & IGLEHART,**  
**GROCERS AND COMMISSION MERCHANTS,**  
No. 78 LIGHT STREET WHARF.  
Invite the attention of their friends, and the public generally, to their large and general assortment of **GROCERIES**, embracing every article in that line of business, and which they will sell upon pleasing and liberal terms, and at the lowest prices. Any one in want of any article in their line will find it to their advantage to give them a call. They will also pay particular attention to the sale of all kinds of produce.

**METEOROLOGICAL TABLE.**

From the 20th of July, to the 21st of August.  
Kept at Schellman Hall, near Sykesville, Carroll County, Md.  
Taken at 6 o'clock, a. m., 3 o'clock, noon, and at 6 o'clock.

|    | Wind. | Temperature | Remarks.                            |
|----|-------|-------------|-------------------------------------|
| 21 | NE    | N 70 76 73  | Clear                               |
| 22 | NE    | E 69 79 71  | Cloudy, showery                     |
| 23 | W     | NW 66 82 77 | Clear                               |
| 24 | NE    | E 66 80 78  | Cloudy, clear,                      |
| 25 | W     | W 70 89 84  | Clear                               |
| 26 | NE    | E 73 70 70  | Cloudy, rain, showery               |
| 27 | E     | E 66 78 76  | Cloudy, clear                       |
| 28 | E     | E 71 86 84  | Fog, clear, a very strong breeze    |
| 29 | SW    | SW 76 89 84 | Clear do                            |
| 30 | SE    | E 77 80 79  | Do gust, 1 in. clear                |
| 31 | SW    | S 72 87 80  | Clear                               |
| 1  | S     | SW 73 82 80 | Do gust, 1/2 in.                    |
| 2  | SW    | E 69 86 70  | Cloudy                              |
| 3  | S     | E 70 80 79  | Clear                               |
| 4  | SE    | E 70 80 73  | Cloudy, gust 1/2 in.                |
| 5  | S     | E 71 83 78  | Fog, cloudy, thunder gust 1 1/2 in. |
| 6  | NE    | E 73 86 77  | Cloudy, shower                      |
| 7  | E     | E 73 86 73  | Cloudy, clear                       |
| 8  | SE    | SE 68 84 77 | Clear                               |
| 9  | S     | E 73 89 80  | Clear                               |
| 10 | S     | E 75 83 73  | Clear, cloudy, cloudy               |
| 11 | W     | E 67 75 70  | Clear                               |
| 12 | SW    | S 66 81 75  | Clear                               |
| 13 | S     | E 65 85 83  | Clear                               |
| 14 | NE    | NE 76 84 78 | Cloudy, clear                       |
| 15 | E     | E 69 82 70  | Clear, gust, 1-4 in.                |
| 16 | SW    | S 64 80 70  | Clear                               |
| 17 | E     | E 65 75 69  | Cloudy                              |
| 18 | E     | E 61 70 67  | Cloudy, rain                        |
| 19 | S     | E 69 67 68  | Fog, rain                           |
| 20 | E     | SE 68 71 65 | Rain 1/2 in.                        |



## To the Farmers of Maryland. CHAPPELL'S FERTILIZER.

It is a source of great satisfaction to the undersigned, to be able to state, that with some few exceptions, the Agricultural Salts sold last fall for the *Wheat Crop*, has fully sustained its reputation as a fertilizer. When it has been used alongside of guano, (in some cases) the guano has given the largest crop, in others, the Salts has fully equalled the guano in yield of grain, and far surpasses it in the yield of clover. Several cases have come to our knowledge where the Salts were used last year on Corn, but owing to the drought, did not produce much benefit to the crop, and the parties (as advised by us) put the same land down in Wheat, in the fall, and the crop this year fully sustains the promise then made, that if not available for the first crop, (owing to the want of sufficient moisture) it remains in the soil, and the following crop will derive the advantage; this cannot be claimed for guano.

Such has been the success of the application of the Salts to the Wheat Crop, that we have every confidence in a large demand this fall, from those who have used it, and from others who have witnessed its effects. It is to such we now refer.

The season this year has been much more favorable than last, for the cultivation of Corn, and we are pleased to hear of its very favorable action on the present growing crop.

The drought which prevailed in June and part of July, operated prejudicially to the *Oat Crop*. Early in the season, its effect on the Oats bid fair for a large yield, but a month's drought blighted the fine prospect, and the benefit was not as distinct, and remunerating, as otherwise would have been, had the season continued more favorable to the maturity of crop. Neither Guano or Salts can be used with the same return of cost on Oats as on Corn or Wheat, the crop when made must be very luxuriant indeed: to repay the cost, as oats bring but a small price compared to Corn or Wheat.

Many farmers have thought that if Guano will be more certain in the yield the first year, and thereby refund the outlay with profit, that it can be used more economically than the Fertilizer. Looking to the first crop only, in some cases this may appear true, but it does not follow that the action of the Salts in the "Rotation," or even in the second crop may not more than make up for the deficiency; this has been the case. There can be no doubt the Fertilizer is more lasting in its effects than Guano; this has been fully sustained by experience, and in very many cases even the first crop at an equal amount of cost per acre, the Salts has given as large and sometimes a larger yield than Guano. That it acts more beneficially on some soils than others, cannot be denied, but that the ingredients out of which it is compounded can be given to a soil without any benefit, appears to be impossible.

A soil so porous, or sandy, that all the soluble parts of the compound, as dissolved, are filtered through, beyond the reach of the roots, is not fit for cultivation, and on such soil, the benefit of this or any other manure cannot be depended on, and in such case the failure is to be attributed to the soil, and not to the Fertilizer.

Each Barrel contains as much Phosphate Lime (dissolved in Sulphuric acid) as 200 lbs Peruvian Guano, besides a full supply of Alkalies, Sulphates, Silicates,

Animal Charcoal, &c. Two barrels therefore per acre, must of necessity, benefit the crop and soil. Besides their immediate availability for the purposes of the growing crop, they act chemically on the soil itself, liberating an additional supply of nutriment not before available, or in a condition to afford nourishment to the plant. It is in view of these facts we say, it is impossible to furnish the soil with a supply, without benefit. On some soils its action (like lime and guano) may be more prompt and show an immediate result, in others, its action may be suspended for a time but ultimately must be of benefit to the soil.

As a top dressing, its action cannot be depended on with the same certainty as when put into the soil with the plough or harrow, and as the winter gives a fine opportunity to dissolve the materials, and the frosts pulverise and diffuse the mixture through the soil, we therefore (for this reason only,) feel more confidence in recommending the Fertilizer for fall than spring sown grains, as it is in solution only, that the Salts can be appropriated by the plants for its nourishment; hence the necessity of an abundant supply of moisture.

We have heretofore published many letters of recommendation, and now add a few additional; we could obtain others, but conceive the testimony so conclusive that any thing more would be superfluous, and refer farmers to those who have used the Fertilizer in their neighborhood, and not to believe any who have not tried it themselves, as many false reports have been circulated to its prejudice. We refer of course to experiments with our Fertilizer, and no other—Experiments made with other *professed Agricultural Salts*, we are not accountable for, and in all cases of inquiry, we wish this to article be kept in mind, we do not wish any other to be confounded with our own. Ours is the original, and only genuine "Agricultural Salts," and we are perfectly satisfied from a knowledge of the constituents entering into our Fertilizer, and those made by others sold as "Agricultural Salts," that ours contain 50 per cent more Bones, 100 per cent more Sulphuric acid, and 50 per cent more "Soluble Salts," than any other compound now offered for sale.

### ADDITIONAL RECOMMENDATIONS.

NEAR MILLERSVILLE, A. A. co., Md

Dr. P. S. Chappell,

Sir:—You know that I have been using your Salts liberally. I have experimented on a very poor and unproductive piece of land in Anne Arundel county; sandy, and condemned for purposes of cultivation for many years—so poor, that the soil had neither grass, weeds, or any sod to turn under.—My neighbors considered it as impossible to produce a crop; however, I flushed the land early in the spring and put in Oats, and Salts at the rate of 2 barrels to the acre—I left out parts of three "lands," on which I did not put any Salts, so that I could judge thereby of the benefit. My crop has surprised me and all my neighbors, and had it not been for my loss, owing to the storm which caught me with my Oats cut and laying in the field, I should have been fully paid the cost of outlay the first crop—as it is, I think, from the present growth of grass and weeds with the stubble, that the Salts

are still acting on the soil, and I shall put the same field in Rye with a fine prospect for a crop. I should have before said, that on the portions or "lands" left without the Salts I did not cradle, the Oats, not being worth cutting. Any practical farmer will see, that if your Salts can give a good crop of Oats on land of the description above given, what would have been the benefit, if the land had been more suitable for cultivation. I regret the loss sustained by having to handle the Oats so much to get them dry after the storm, as it prevented my having the crop thrashed out and measured. One thing is certain, I had the best crop of Oats in this part of the county.

I put *stable manure* on a piece of the same kind of land which I also put in Oats—it was a good dressing of Horse manure, ploughed in, and the Oats sown at the same time, as where I used the Fertilizer. The crop was not equal to where I used the Salts.

I have also used the *Salts* on Corn, broadcast and in the hill— $1\frac{1}{2}$  and 2 barrels to the acre, on land pretty much of the same description as that for Oats. The last time it was in Corn, I am told it did not yield  $\frac{1}{2}$  a barrel to the acre; it now stands good for at least 5 barrels, and if the early part of the season had been more favorable 6 or 7 barrels to the acre would, I am confident, have been the result. Should the season hold out from this time, I shall certainly make a very fine crop, hard to beat, even on the best land in the neighborhood.

Your Salts has been used by several of my neighbors; it has been used in every way alongside of Guano, and so far, the prospect is in favor of the Fertilizer. One experiment, that came under my own observation, where it was used broadcast, alongside of Peruvian Guano in the hill, the Corn far surpasses the Guanoed Corn in size and regularity. Another neighbor, Mr. Billmeier, used it in the hill, alongside of Guano, and tells me the Corn is quite equal, in height and colour; the same gentleman experimented with it mixed, in the hill, and it has doubled the size of his Corn. I have seen Mr. White, who used 4 barrels of your Tobacco preparation, and he tells me that it is making his Tobacco jump.

I also used your Fertilizer on *Cantelopes, Cabbages, Potatoes, &c.*, with benefit. I have now full confidence in the Salts as a manure, and my neighbors all say they are surprised at the results. I expect you will have a large demand this fall from this part of the country, as I know several who intend to use it for their Wheat crop.

Respectfully, WM. HORN.

HARRISONVILLE, Balt. co., June 24, 1850.

Dr. Chappell:

Having used your Fertilizer on Potatoes with very satisfactory results, and as I promised, I now send you the result of my experiment last year. I have for several years paid particular attention to the cultivation of Potatoes for market, and have used Guano, and stable manure, and give a decided preference to your Salts. Last year my crop was good, larger by one third, from the use of your Salts than from Guano, or stable manure. Out of 81 bushels raised on a piece of ground less than  $\frac{3}{4}$  of an acre, only 9 bushels were too small for market, these I sold for seed at home. The quality of the Potatoes is far preferable to those where I used other manures. All I sold them to, remarked their fine flavour and peculiar mealiness, and desired more of the same.

I consider your Salts the cheapest manure that can be used on Potatoes; considering the saving of labour in planting and the trouble and expense of hauling manure and placing it on the land, 2 boys being able to do as much in a day, as 2 men, and a cart and horse, with manure. So well satisfied am I with the result that I intend to use no other manure in future, with my Potatoe crop.

My Potatoes this year look remarkably well, I think better than they did last year.

I have used the Fertilizer in the drill, 400 to 500 lbs. to the acre; at this rate my calculation is, that my crop is increased by the increased size of the potatoes, at least one third. LARKIN YOUNG.

Avon, Balt. co., June 20, 1850.

P. S. Chappell, Esq.,

Dear Sir:—In answer to your enquiry as to my experience of the effects of your Fertilizer, it gives me pleasure to state that, so far as I am at present able to judge, I consider it one of the most valuable of manures. I have used it on land set in Timothy last fall, with most decided success, having secured a most beautiful set, and so fully was I convinced of its value from the experiment made last fall, that I dressed this spring all the land (set in Timothy at the same time) on which I had not applied it at the time of setting, and feel satisfied that I have secured a fine crop from the spring application, as the grass at the time of the application was most decidedly inferior to that dressed in the fall.

Late in April, I laid off an acre in a field of Clover and dressed it with 2 bbls. In the course of about two weeks the effect became visible, and at this time the Clover on that acre is all down on the ground from the rankness of its growth; the balance of the field is only very fair, and I intend to treat it to  $1\frac{1}{2}$  bbls. this fall.

The specimen of Rye which I sent you (8 feet 3 inches high) was cut from a field dressed with your Fertilizer at the rate of  $1\frac{1}{2}$  bbls. to the acre, the field will average 7 $\frac{1}{2}$  feet. There is also a good set of Timothy under the Rye. I have also tried it on Potatoes and will give you the result when the crop is gathered.

So well satisfied are my neighbors with the success of my experiment that they have expressed a determination to use the Fertilizer freely. I cannot say how it acts on other lands, but do know that it suits mine, which is a red stiff soil.

Very respectfully yours, T. C. HARRIS.

Mr. P. S. Chappell:

Dear Sir—I have been your debtor for some time back, and the obligation such as to cause me to be rather ashamed for allowing it to remain unsettled thus long, but I have the pleasure of knowing that the debt has been accruing interest to such an extent, as to make its payment more acceptable to you, and more satisfactory to me, than if simply settled some months back.

You may remember that I procured 3 bbls of your Salts last spring a year to experiment with, and that the trial was unsatisfactory to me, as I informed you and many of my friends. The trial of one bbl. upon a piece of ground about  $\frac{3}{4}$  of an acre with oats, resulted as I then believed with no benefit to me, as the adjoining piece of same dimensions, with 150 pounds of best Peruvian guano made so much better show than that with the Salts, I was led to believe that the Salts had been of no use, particularly as a strip left between without

any manure produced quite as good oats as that with the Salts; but neither as good as the guanoed parts. With this result I was led to believe that the Salts was of no benefit, and that the outlay, although small, had been useless. I felt it to be my duty to inform my friends of my convictions so as to prevent them from making useless expenditures; more particularly was I convinced of its inefficacy by the result of the trial on corn the same spring. I had different quantities put in the hill around the corn, at the time the hands were thinning and rounding in every other row—and was not aware which rows received it; but it was put on by my brother, whom I requested to give it his personal attention. The result was unsatisfactory, as I could never say which row had the Salts—thus proving that it had been of no use to the corn.

I will observe that the ground in which this experiment was made was of a sandy nature, it being the deposits of the freshets in the Patapasco river, and of very good quality for corn without any manure. The season of 1849 was very dry, and if the Salts could have been any help to the corn, in the manner which it was applied, the season was much against it.

The result of these experiments were freely communicated to many, yourself included. I now fear that some of my friends may have been induced by my representations to have abandoned any idea they may have had of giving the Fertilizer a trial, as I am now sure that the application of it on wheat last season would have been beneficial; or on oats this spring, owing to the very wet season, if not, they would be more than repaid by the crop of grass succeeding the wheat or oats. I am sure of this by the fact of cutting a very good crop of clover from the piece of ground where the Salts were applied last spring, whilst the strip alongside, without manure, yielded but an indifferent crop, and the land where the 150 pounds of Peruvian guano was applied produced an inferior crop to the land which had the Fertilizer; the clover was much mixed with sorrel, whilst the other had none. The land where the Salts was applied had always produced worse crops than the rest of the field. From the result thus far, I am convinced that the season was too dry last year for successful action of the Salts, and that the land intended to be left without manure had received some benefits from the guano, as the wind was blowing towards it when the guano was sowed on the adjoining land, which slight dressing caused the oats to be as good as on the land with the Salts. The Salts were applied before harrowing the oats, and the guano was ploughed in, which I believe was the cause of its favorable action, as it was covered beyond the effects of the drought, but the Salts laying near the surface, had but little chance to act. So well convinced am I of the efficacy of your Fertilizer, I have procured 10 bbls. from Mr. Hopkins, and applied to my corn-land after the corn was ankle high; feeling sure that if it did not help the corn it would be found telling on the succeeding crops of wheat and grass. My corn is now growing very rapidly all over the field, and as yet I cannot perceive any benefit from the Salts; but as the soil is very good, its effect will not be so perceptible on this crop as if on poor land; but I know it is there for the next crop. As my object is to get my small farm in a high state of productiveness, I do not care to put in crops without some kind of manure, and as I had not a sufficient quantity of that never failing Fertilizer, barnyard and stable manure, for the whole field, I was

induced to apply your Salts as the best substitute, as I believe it is more lasting and better than guano. I hope never again to be compelled to resort to any substitute for the real stuff, for I feel sure that barnyard and stable manure, with lime, is the safest, surest and most lasting Fertilizer that has yet been discovered, but as an agent to make manure I would prefer your Salts to any other high pressure manures that I have tried. As I stated in the commencement of this that I was your debtor, I now hope that this hasty scrawl may be considered amply sufficient to cause you to cancel the debt.

Very respectfully, yours.

GEO. Y. WORTHINGTON.

HOCKLEY, Howard Dist. Jan. 24, 1850.

BALTIMORE, Aug. 28, 1850.

Dear Sir—I cheerfully reply to your letter of the 24th of June asking the results of my experiment with "Chappell's Fertilizer." A concise history to the present date of the land and its crops will answer your inquiries with the least amount of surmise and speculation, and leave the matter to the inferences of every mind which may examine it.

A field of 16 acres, worn out by lying long as a common, overgrown with briars, and worked after its enclosure in such a course of husbandry that its owner only received two barrels of indifferent corn as his *entire rent* from the tenant who worked it on shares, was treated in the following manner.

In the latter part of July, 1850, the field was carefully ploughed, a boy following the ploughman to cast the briars on the surface, to be seared by the sun. To twelve acres, one thousand bushels of unslacked stone lime were applied. The whole field was then cross-ploughed and harrowed. "Chappell's Fertilizer" was sown broad-cast on the twelve acres which had been limed, and on two other acres immediately adjacent upon which no other manure or lime had been put—the fourteen acres receiving 22 barrels, at about an equal rate per acre. Two bushels per acre of Mediterranean wheat was then put in with the Cultivator into the 12 acres which had been limed, and afterward clover and timothy sown on the surface. The seeding was done between the 12th and 17th of September. Two acres which had no lime, was sown with the Zimmerman wheat.

The remaining two acres of the field had no lime and was treated with about 300 lbs. of Peruvian guano to the acre, and similarly managed and sown as the two acres which had the "Fertilizer" without lime.

The early part of that fall and the preceding summer was a season of unusual, if not unexampled, drought. The vegetation was not prompt. The wheat and grasses shot up vigorously, and with deep color, when the rainy season set in. After the finest promise until late in December, the clover was entirely destroyed by the severe winter, and the wheat and timothy materially thinned. In the latter part of last March the field was resown with clover and timothy.

The Wheat has been cut and is now in stack. The Guano portion is considered by experienced judges to have yielded 20 bushels to the acre. I have heard no one estimate it at less. The remainder of the field is assessed by the same judges at an average of 17 bushels per acre, the limed land being rather better in yield than that in which your "Fertilizer" was used alone, without lime.

The field is well set in Clover and Timothy; a gentleman who grows 300 tons of hay per year, es-

timates from its appearance that it will cut next season, a ton and a half per acre, and his judgment is not to be surpassed as to this kind of crop. The Clover and Timothy is best where lime was used, and far better where the "Fertilizer" was employed than that treated with the "Guano." The difference between the two last pieces of land is discernible at a glance and can be traced to the dividing line.

The land manured with Guano cost, including hauling, \$6.25 per acre. That which had the "Fertilizer," cost \$5 per acre, hauling also included. The Lime cost sixteen cents per bushel delivered in bushel heaps on the ground.

Here are plainly set forth the facts, and every mind can make its comparative estimate between the several manures.

I only add in conclusion that I am gratified with the purchase of your "Fertilizer." I am of opinion that it is quite as much superior to Guano for Clover, as Guano may be its superior for Wheat. I would sooner have the difference in Clover than the difference in Wheat, taking into view the future uses of the land. Respectfully yours,

WM. HENRY NORRIS.

*Note.*—Had Mr. Norris applied the Fertilizer at the same cost per acre, it is a fair calculation that he would have got as large a yield from the use of the Salts as from Guano.

Mr. John Nantz, whose farm is on the Liberty Road, 5 miles from the City, has been using the Salts, largely, ever since the fall of '48 with great success, on *Wheat, Corn, Timothy, Clover, &c.*, and informed us a few days since, that this spring, he applied 10 barrels on 5 acres, broad cast, for Corn. He also assures us that it cost him *more money* to haul from the barn, and spread stable manure for 4 acres, now also in Corn, than the cost of the Salts for the 5 acres—and that the Corn on the portion manured with the Salts, *looks much the best*—for particulars we refer to Mr. Nantz.

Mr. Jas. R. Ramsay, *East Nottingham, Chester Co., Pa.* writes us word, July 18th, that "he used 8 barrels last year on 12 acres of *old field*, and had 245 bushels buckwheat, which paid well, and the soil is left in an improved state, well set with clover; a number of others have used it in my neighborhood, and are well satisfied with it, and want more this fall—I shall want from 25 to 30 barrels myself—I think Mr. Ross will want about the same quantity, and Messrs. Dickey & Bro. at Hopewell Cotton Works, will want as much, and a number of others wish to get a few barrels to try it."

Since the receipt of the above letter from Mr. Ramsay, *Messrs. Dickey's* (they also used it last fall on wheat) have ordered 100 barrels.

*The Revd. Dr. Johns*, of this city, who has a farm in Delaware, purchased 2 barrels this spring for experiment on corn, and is so well pleased with its action, that he has ordered 32 barrels for *Wheat*.

Geo. W. Brown, near Reisterstown, Balt. Co. used the salts on wheat: a part of the field he gave a good dressing of Stable Manure, and informed us just before harvest, that he would get more wheat where he put the Fertilizer, than the part which he dressed with the stable manure.

Mr. Daniel Weaver, also near Reisterstown, used the Fertilizer last fall on *Wheat*, and reports the *best crop* in the neighborhood—his land was very poor.

Dr. Jno. S. Reese has used the salts this year, (as he did last year) with success—his son, informs us, that last year they applied the salts to corn on "old meadow, worn out;" that they sowed timothy before the last working of the corn, *this year*, they cut at least 1½ tons timothy to the acre, and expect next year to cut at least 2 tons per acre—so large a head had the timothy, they intend to thresh out, and expect to sell the seed for 80 or \$100.

Mr J. Q. Hughlett of this city, whose farm is about 4 miles on the Frederick Road, top-dressed last year, the *barren spots* of a 20 acre field of *wheat*, and reports that it did not benefit the wheat, but he now has *three times* as much clover where he put the Fertilizer, as on any other portion of the field, though the land is sufficiently rich to have yielded 19 bushels of wheat to the acre.

We have also experimented this year at our residence near the city, on Potatoes, Cabbage, Beets, Lima Beans, Tomatoes, Squashes, and other vegetables, *all* of which, are larger by far than the same vegetables sold in the city Markets.

We also tried it as a top-dressing on Rye, (put in last fall before taking possession of the place) with decided benefit to the Rye, ascertained by leaving a portion undressed; also on an acre of corn "sown broadcast," at the rate of 3 barrels Fertilizer and 5 barrels Animal Charcoal to the acre. The corn was sown about the 15th June; until rain, (which did not fall for about 20 days after,) but little progress was made in its growth—since then, it has grown surprisingly, and we have just cut as fine a crop as we would wish—The land was poor—The crop fully equal, if not larger, than would have resulted from a dressing of 30 or 40 cart loads of stable manure; and we expect another crop without additional manure.

We have removed our office to a store in Howard Buildings, in Lombard St. 4 doors below our former office, of which our friends will please take especial notice.

P. S. CHAPPELL.

Bato. Sept. 1st, 1850.

1t.

P. S. CHAPPELL,

**MANUFACTURING CHEMIST,** Office, Howard Building, No. 158 Lombard street, between Hanover and Charles, (4 doors from former office.) Offers for sale, *Oil of Vitriol or Sulphuric Acid*, of his own manufacture, for dissolving Bones. See his advertisement in July No. for other articles for Agricultural purposes. Sept. 1st.

NEW OXFORDSHIRE AND BAKEWELL AND SOUTHDOWN LAMBS.

The subscriber will have ready for delivery in August and September next, a number of BUCK LAMBS full bred new Oxfordshire or Cotswold stock, purchased from Mr. Ryebold, of Delaware. Price, \$15 to \$20.

Also, Bucks, a cross of the New Oxfordshire on the South-down and Leicester. Price, \$10. Apply to S. Sands, office of the American Farmer, or to WM. JESSUP, je 1 3t Cockeysville, Balto. Co., Md.

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